UNIVERSITY OF EXETER

LITERATURE REVIEW: Patterns of Flexible Goal Adjustment in Depression and Well-being: A Systematic Review

EMPIRICAL PAPER: Conditional Goal Setting and Flexible Goal Adjustment in Depression

Submitted by Eimear Corrigan, to the University of Exeter

as a thesis for the degree of Doctor of Clinical Psychology, 16th May 2019

I certify that all material in this thesis which is not my own work has been identified and that no material has previously been submitted and approved for the award of a degree by this or any other University.

Signature: ……..

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SCHOOL OF PSYCHOLOGY

DOCTORATE IN CLINICAL PSYCHOLOGY

LITERATURE REVIEW

Patterns of Flexible Goal Adjustment in Depression and Well-being: A Systematic Review

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Abstract

Adjusting goals in response to an unattainable goal is considered an important aspect of self-regulation, with it being further implicated in well-being. It is theorized that goal adjustment is comprised of two independent processes of goal disengagement and goal reengagement. This review seeks to understand how these processes interact to predict indicators of depression and eudaimonic aspects of well-being. More specifically, this systematic review aimed to address the question: Does goal disengagement in response to unattainable goals and goal reengagement demonstrate additive and interactive effects to predict indicators of depression and well-being? A total of 750 articles were identified through database searches, yielding 11 eligible articles, inclusive of 12 studies. Results did not support an interaction hypothesis but highlighted independent contributions of goal disengagement and goal reengagement on outcomes, with goal reengagement being found to be the most consistent finding in cross-sectional analysis in terms of its association with outcomes. The review is limited by the questionable reliability and validity of measures in certain cases, lack of experimental designs and longitudinal designs having short follow-up time frames with high attrition.

Keywords: Flexible goal adjustment, depression, well-being, goal disengagement; goal reengagement.

Introduction

Self-Regulation of Goals

Goals are defined as internal representations of a desired-for state or outcome (Austin & Vancouver, 1996), with the ability to adjust goals being posited as an important aspect of adaptive self-regulation and related to well-being (Carver & Scheier, 1990, 1998; Heckhausen, Wrosch, & Schulz, 2010). Goal pursuit has been linked to an enhanced sense of structure, purpose in life and wellbeing (Emmons, 1986; Carver & Scheier, 1999). As individuals move towards their goals, they engage in continual monitoring of the discrepancy between a current and desired-for state in relation to their goals, with this discrepancy motivating a person to reduce the gap (Carver & Scheier, 1990). However, obstacles to goal attainment is an inevitable feature of life (Bauer, 2004). This can prompt an individual to alter their approach or increase the level of effort directed at the goal. Despite this, their actions may not result in the desired outcome. Obstacles could involve limited personal resources to pursue a goal (e.g., time) or a stressor that challenges the ability to sustain progress (e.g., illness, aging). In such cases, optimal self-regulation of goals is considered imperative (Carver & Scheier, 2000), thereby potentially ameliorating the negative consequences of a failed goal such as rumination, negative affect and distress (Carver & Scheier, 1990; Martin & Tesser, 1996; Wrosch, Scheier, Carver, & Schulz, 2003).

According to Carver and Scheier (2003), disengagement from unattainable goals can be more adaptive than goal pursuit. This process of disengagement may involve reducing one's commitment and effort towards a goal that has been acknowledged as unobtainable. It may also involve scaling

back on desired goals without disengaging completely. With this in mind, a key issue is how an individual accurately judges a goal to be attainable or not. However, while disengagement from unattainable goals is considered optimal, it is not necessarily a reality or process that occurs spontaneously. For some, adjusting an important goal can be appraised as stressful, resulting in feelings of sadness and disappointment (Carver & Connor-Smith, 2010). Nonetheless, persisting with a goal that is unattainable is considered to be a drain on personal resources and potentially detrimental to health, including mental health (Klinger, 1975; Wrosch & Scheier, 2003). Conversely, perseverance for attainable goals is desirable. As such, a key skill for individuals is the recognition of when to persist and when to disengage from goal pursuit.

Dual Process Model

Goal adjustment has been considered within a developmental framework such that opportunities for goal pursuit may vary across the life span (Brandstadter and Renner, 1990; Heckhausen et al., 2010; Wrosch et al., 2003). The aging process is inextricably linked with functional decline and losses such that an individual is required to successfully navigate this transition over life. Brandstadter and Renner (1990) presented the Dual Process Model, whereby they distinguished between two goal-based processes, namely, assimilative and accommodation coping. The assimilative mode of coping involves maintaining progress towards goals by altering life circumstances to fit with the goal (e.g., acquiring new knowledge or skills). Accommodative coping refers to the ability to adjust, re-evaluate and downgrade goals in responses to perceived deficits and losses (e.g., reducing effort towards a goal). In this way, an individual can overcome feelings of loss and regain control through the aging

process by redirecting their attention and increasing the importance of more attainable goals.

Goal Adjustment Model

According to Wrosch et al. (2003), goal adjustment capacities represent a dispositional attribute, whereby people respond to unattainable goals in characteristic ways. Compared to the Dual Process Model, the focus here involves a shift from goal adversity to goal unattainability. In this model of flexible goal adjustment, they emphasise the importance of goal disengagement and goal reengagement, arguing that goal disengagement alone is not satisfactory for self-regulation. Disengagement enables a person to free up resources and prevents the negative consequences of persistent goal failure. Reengagement in alternative goals enables an individual to derive a sense of meaning from other valued goals. In essence, to disengage without the pursuit of alternative goals can result in feelings of emptiness and loneliness (Carver and Scheier, 2003). Carver and Scheier (1998) further state that to completely disengage from goals is to disengage from life itself.

The benefit of flexible goal adjustment has been empirically supported in research, with high goal disengagement linked to greater well-being and lower levels of depression and negative affect (Wrosch, Miller, Scheier, & de Pontet, 2007; Wrosch, Schieier, & Miller, 2013). In one study, increases in disengagement predicted decreases in depression symptoms in adolescents over a 19-month follow-up period (Wrosch & Miller, 2009). However, there was no association between goal reengagement and subsequent depression. In similar research, difficulty disengaging from goals was related to six-year increases in depression in older adults who had concomitant levels of high

functional disability (Dunne, Wrosch, & Miller, 2011). Again, no association was found for goal reengagement tendencies. In line with these findings, goal reengagement has generally been shown to be more consistently associated with positive elements of wellbeing as opposed to depression or negative affect (Wrosch & Miller, 2009; Wrosch et al., 2007). Instead, goal reengagement has been shown to be associated with purpose in life and life satisfaction (Wrosch et al., 2003; Thompson, Staunton, & Bower, 2013). However, it has been suggested that goal reengagement has the potential for negative costs, particularly if it depletes a person's resources further and goal pursuit is considered burdensome (Wrosch, Amir, & Miller, 2011).

Goal disengagement and goal reengagement are generally considered to be independent processes, with research using self-report measures supporting this assertion (Wrosch et al., 2013). Wrosch et al. (2003) proposed the notion of an interactive effect, such that goal disengagement could be particularly adaptive when accompanied with high reengagement. It has also been argued that high reengagement could buffer the negative consequences of persistent futile efforts directed towards an unattainable goal (i.e., low disengagement; Wrosch et al., 2013) or even that low disengagement may prove helpful in the absence of alternative goals (i.e., potentially there is some benefit of having goals that is independent of the progress towards them; Wrosch et al., 2003).

The extant literature points to the benefits of flexible goal adjustment in response to unattainable goals in depression and well-being (Wrosch et al., 2013). However, it is less clear how goal disengagement and reengagement may interact in relation to psychological functioning. Perhaps, certain combinations of goal disengagement and reengagement are more maladaptive

than others. In support of this notion, a problematic pattern related to complete disengagement (e.g., high disengagement and low reengagement) has been implicated in suicidal risk (O'Connor, Frazer, Whyte, MacHale, & Masterton 2009). However, a review of the literature is required to further elucidate and explore the interaction hypothesis further. The following potential patterns have been suggested here: 1) Goal disengagement and goal reengagement may not have additive effects, such that only one process is important for psychological outcomes; 2) Goal disengagement and goal reengagement may have additive effects, with each contributing independently to psychological outcomes (in this instance, it would be beneficial to be high on both disengagement and reengagement but being high on one process may be somewhat helpful); 3) Goal disengagement and goal reengagement may have interactive effects such that the effect of one depends on the level of the other. This pattern could take many forms such that one capacity compensates for the absence of another or the presence of both could contribute beyond the individual additive contributions. Other forms of interaction are possible. Based on the current understanding, this systematic review aims to answer the following question: "*Does goal disengagement and goal reengagement in response to unattainable goals demonstrate additive and interactive effects to predict indicators of depression and well-being*?"

Method

Eligibility Criteria

In line with PRISMA guidelines, the studies included in this review were based on PECO (Population, Exposure, Comparator, Outcome) criteria, with the specific study characteristics outlined in Table 1. This is the recommended

reporting guide for systematic reviews, which aids the development of a rigorous and robust review protocol (Moher et al., 2015).

Table 1

PECO inclusion and exclusion criteria for systematic review

	Inclusion	**Exclusion**
Participants	18 years + Clinical or non-clinical populations	
Exposure	Measures that assess or manipulate (i) goal disengagement in response to unattainable goals and (ii) the identification of alternative goals, commitment to new goals and/or initiation of activities towards new goals under such circumstances. There is no restriction in terms of goal type (e.g., participant-generated, experimenter-generated) Studies that assess the additive AND interactive effects of goal disengagement and re-engagement on outcomes in response to unattainable goals	Measures that assess goal flexibility without distinguishing between both components of goal disengagement and goal re-engagement e.g., Brandstaedter and Renner's measure of Flexible Goal Adjustment (1990)
Comparator	The review will look at the variation	

	across a continuum of goal disengagement and goal reengagement or studies that compare groups of people identified as being high or low on goal reengagement and disengagement variables.	
Outcome	Diagnostic and/or psychometrically sound, validated measures of depression and well-being indicators (e.g., Patient Health Questionnaire-9; Beck Depression Inventory-II; Hospital Anxiety and Depression Scale; The Purpose in Life Scale; Satisfaction with Life Scale)	Measures of hedonic well-being.
Design	Case-control designs Retrospective designs Prospective designs Experimental designs	Qualitative methods Non-peer reviewed Case studies Studies requiring translation Secondary sources (e.g., book chapters, review articles)

Participants. Studies that recruited clinical and non-clinical populations aged 18 years and above were included in the review. The aim was to review the evidence in adults when goal regulation may be more developed. As such,

the review will examine studies of diverse groups of individuals, some of which includes the perspectives of university students and various clinical populations.

Exposure. Studies that addressed the additive and interactive effects of goal disengagement and goal reengagement in the context of unattainable goals were the primary focus for this review. Measures of flexible goal adjustment are required to distinguish between, and measure both aspects of goal disengagement and goal reengagement.

Outcome. Depression and well-being measures, including diagnostic tools were required to be valid and reliable. For this review, there was a focus on eudaimonic aspects of well-being rather than hedonic elements, with measures to include aspects of life satisfaction and purpose in life. This is in recognition that life engagement with goal pursuit and adjustment may relate more to eudaimonic well-being.

Study design. Studies published in peer reviewed journals and those that did not require a translation to English were included in the review. This decision was based on resource limitations. Grey literature (e.g., unpublished research) was not included for the same reason. Study designs deemed eligible for the review included prospective, retrospective, cross-sectional, experimental and case-control methodology. Qualitative designs and case studies were excluded on the basis that they would not answer the review question.

Information Sources

Articles were identified in the following six databases: Web of Science, PsycINFO, Medline OVID, AMED, Scopus and CINAHL. Studies were not restricted by year of publication, with the search being carried out from the beginning of each database up until the final search on the 3rd February 2019.

Search Strategy

The initial step involved identifying keywords by reviewing articles of interest (e.g., Wrosch et al., 2003). From this, a list of keywords was generated to capture aspects relating to flexible goal adjustment plus indicators for depression and well-being. The search strategy included the use of Boolean operations to either narrow (e.g., AND) or broaden (e.g., OR) the search as required. Truncation was adopted to include various forms of a word such as depression**.** The search terms are illustrated in Table 2. Several key articles identified prior to the review (e.g., Wrosch et al., 2003; Wrosch et al., 2007) were used to ensure the search was successful at identifying appropriate articles and inclusive of these articles.

Table 2

Search Terms for Electronic Databases

1	**FLEXIBLE GOAL ADJUSTMENT =** "goal re-engag*" OR "goal reengag*" OR "goal diseng*" OR "goal adjust*" OR "goal flexibility" OR "goal management" OR "goal accommodation" OR “goal revision”
2	**DEPRESSION INDICATORS =** "depress*" OR "dysphor*" OR “dysthymia” OR "distress"
3	**WELL BEING =** "life satisfaction” OR "well-being" OR "wellbeing" OR "satisfaction with life" OR "purpose in life"
Search Combination	Flexible Goal Adjustment AND (Depression OR Wellbeing)

Study Records

Consistent with the CRD's recommendations (CRD, 2009), the titles and abstracts of all studies identified through the database search were added to an Excel spreadsheet and screened using the PECO criteria for eligibility. Duplicates were deleted. The remaining articles were then reviewed at the full text stage to determine eligibility, again using the PECO criteria with reasons for exclusion noted in each case. A random sample of six articles was checked for reliability regarding eligibility by a second rater. This yielded 100% reliability in terms of the decisions related to the inclusion and exclusion of articles. The reference lists of included articles were screened for relevant papers not captured in the search, with no additional articles identified. In total, the search generated 750 references across the various electronic databases (see Figure 1).

Data Extraction

Data were extracted directly into a table to include information pertaining to the study design, aims and participant characteristics (Table 3). This was further supplemented with details of the exposure and outcome measures, the main findings for depression and well-being indicators and quality ratings (Table 4).

Quality Assessment

Three of the included articles were assessed for quality by a second rater using the Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies (National Heart, Lung and Blood Institute, 2014). The assessment tool is not designed to generate an overall rating. Rather, the tool enables an evaluation of internal validity, risk of bias and methodological rigour.

This tool was selected to consider research design elements relevant to correlational research whereas other available tools were heavily weighted toward randomised controlled trials, with the latter not being relevant to the studies included within this review. An assessment of inter-rater reliability yielded 91% agreement, with discrepancies discussed with the second rater to improve accuracy and reach consensus.

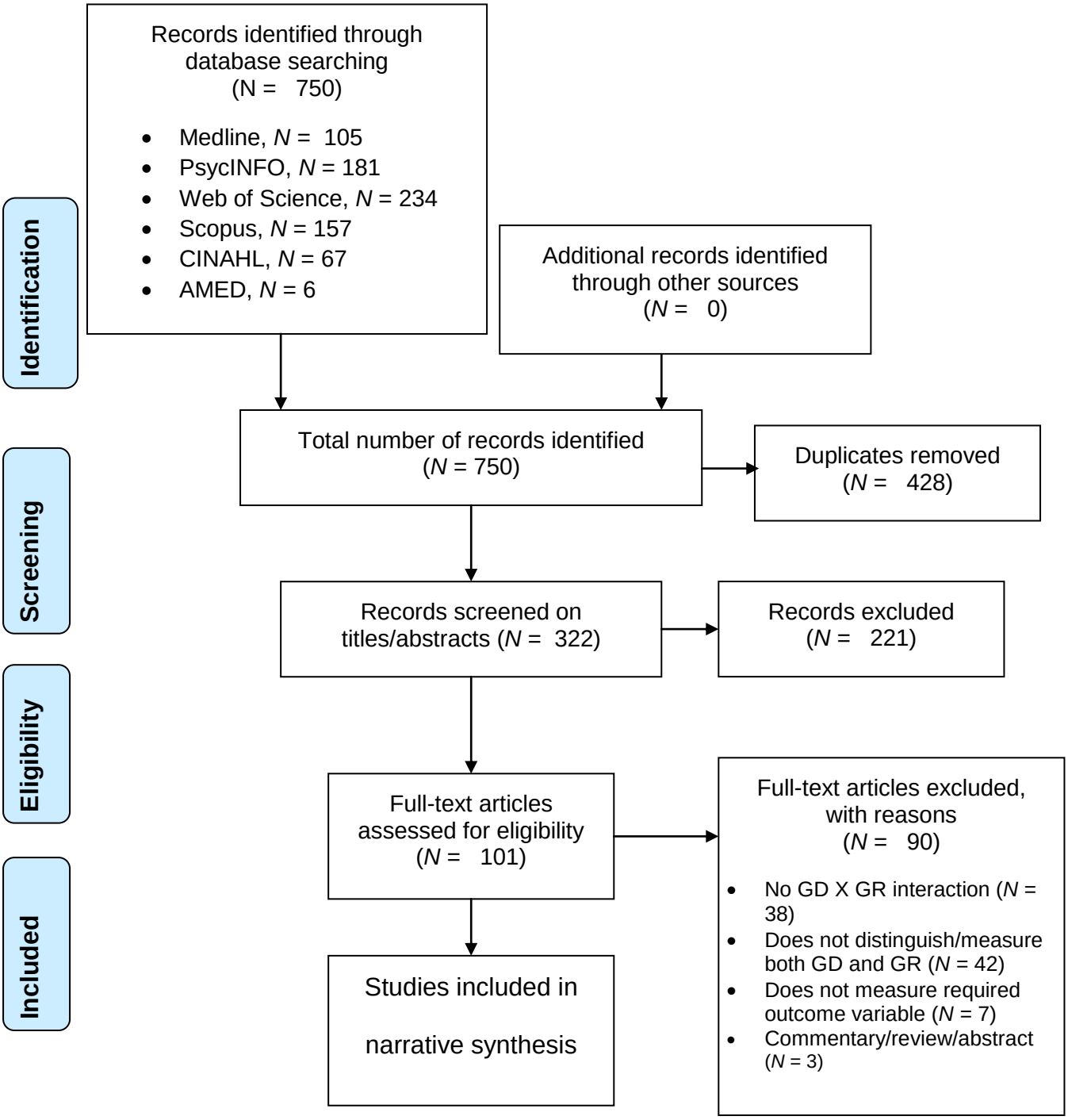

Figure 1. Flowchart for the identification of articles.

Results

Participant Characteristics

The 11 articles included a total of 12 studies and provided information from 7 different participant populations. This generated data for 2,014 individuals. The groups studied included individuals undergoing fertility treatment (*K* = 2), cancer patients (*K* = 2), university students (*K* = 2), patients with multiple sclerosis (*K* = 2), individuals with chronic pain (*K* =2), community adults (*K* = 1) and caregivers with a family member with a mental illness (*K* =1). Participation across the studies comprised a generally higher distribution of females compared to males, with the exception of one study. This one study recruited university students of whom 69% of participants were male (Wrosch et al., 2003, study 1). Two studies comprised entirely females with the participants either undergoing fertility treatment or having cancer (Thompson et al., 2011; Thompson et al., 2012). The percentage of females in the remaining studies ranged from 53% to 83%. The ages of participants varied greatly, which reflected the broad inclusion criteria for this review plus the expected demographic for certain illnesses, university and community samples. The mean age across studies ranged from 19.35 years to 62.25 years.

Table 3

Description of Study Design and Participants in Alphabetic Order based on Participant Population

Reference, Study Location	Study Design and Aims	Participants (population and context)
Thompson et al., 2013, USA	Longitudinal design with a 3-month follow-up, followed women with metastatic breast cancer to consider the role of dispositional and situational goal adjustment in psychological adjustment.	**Cancer**: A total of 103 women with metastatic breast cancer were recruited through a community and university-based oncology clinic. The current figure represents the individuals who completed measures at baseline and at 3-month follow-up. At baseline, 114 individuals completed measures (M_{age} = 57.2, *SD* = 10.8).
Zhu et al., 2015, Netherlands	Longitudinal design that examined whether goal adjustment capacities were related to changes in symptoms of depression, anxiety and fatigue over 9-months in cancer patients.	**Cancer**: A total of 241 cancer patients (M_{age} = 51.39, *SD* = 10.6; 193 female and 48 male) who were receiving psychosocial care through a psycho-oncology institution were recruited to the research and completed measures at both time points. Data were collected prior to the start of their psychosocial care and then nine months afterwards.
Kraaij et al., 2010, Netherlands	Cross-sectional and prospective relationships were observed in this study over 9 months. The aim was to explore the relationship between cognitive coping strategies, goal adjustment, and symptoms of depression and anxiety in people with fertility problems.	**Infertility**: In total, 313 individuals who attended an infertility clinic participated in the research (M_{age} = 35 years, *SD* = 4.7, 78% female). Of these, 139 individuals completed the research at both time points, with a higher proportion of females participating at follow-up.
Thompson et al., 2011, USA	Longitudinal design which considered the association between goal adjustment and psychological adjustment in the context of infertility over 6 months.	**Infertility:** Women seeking fertility treatment participated in the study (N = 97, M_{age} = 33.13 years, *SD* = 5.57). Of those invited to take part, 87% participated. A total of 58 women also completed measures 6 months following baseline although 11 of these were excluded. The women were recruited from a fertility clinic.
Neter et al., 2009, Israel	Cross-sectional study, with the aim of examining whether goal disengagement and reengagement are related to wellbeing, illness representations and disease characteristics.	**Multiple Sclerosis (MS)**: MS patients randomly recruited from a specialised MS clinic (*N* = 101, M_{age} = 41.21, 69% female).

Van Damme et al., 2019, Belgium	Cross-sectional study. This study investigated the role of goal adjustment in mental well-being and goal disturbance.	**Multiple Sclerosis (MS)**: MS patients were recruited from a specialised centre in a Neurology Unit (*N*= 97, M_{age} = 44 years, *SD* = 12; 67% female). Patients were identified by their neurologist during a routine visit.
Arends et al., 2013, Netherlands	Cross-sectional study which explored the goal management strategies related to adaption to polyarthritis.	**Pain**: Polyarthritis patients (*N* = 305, M_{age} = 62.25 years, *SD* = 13.3, 62% female) who were randomly recruited through an outpatient clinic for rheumatology using electronic records.
Ramirez et al., 2018, Spain	Cross-sectional study, with the aim of investigating the relationship between optimism, goal adjustment and adaption in patients with chronic pain.	**Pain**: Individuals with a history of chronic musculoskeletal pain (*N* = 258, M_{age} = 52 years, *SD* = 9.75; 209 females & 49 males) were recruited through various sources including two organisations for patients with fibromyalgia, one physiotherapy unit and through doctors working in a pain unit in a hospital.
Wrosch et al., 2003; study 1, USA	Cross-sectional design with the aim of exploring the associations between flexible goal adjustment and subjective well-being.	**Undergraduate students**: This research comprised 115 undergraduate students (M_{age} = 19.35, *SD* = 1.08; 69% were male).
Wrosch et al., 2007; study 3, Canada	Longitudinal design which followed university students over one semester. The aim of the study was to examine the relationship between well-being, goal adjustment and physical health.	**Undergraduate students**: A sample of 81 undergraduate student were recruited to participate in the study (M_{age} = 22.11, *SD* = 3.63; 68 female and 13 male). Individuals were followed up approximately 2 months post-baseline, 65 individuals completing measures at both time points.
Wrosch et al., 2007; study 1, Canada	Cross-sectional design which looked at the relationship between goal adjustment, well-being and physical health in a community sample.	**Various others**: A community sample of 150 adults (M_{age} = 50.06, *SD* = 20.05; 47% male) participated in a questionnaire study. They responded to advertisements in newspapers.
Wrosch et al., 2011, Canada	A longitudinal design, which examined associations between goal adjustment capacities, coping and well-being across a 17-month period.	**Various others**: Caregivers of family members with mental health difficulties were recruited for this study. Of the 153 individuals that participated at time 1 (M_{age} = 60.73 years, *SD* = 12.35; 78% female), data for 6 people were excluded from the analysis at baseline and 121 people completed measures at time 2 with this representing an 82% completion rate.

Table 4

Summary of Eligible Studies in Alphabetic Order based on Participant Population

				Relevant findings		
Ref	Population (*N*)	Exposure Measure (GA)	Outcome Measures	GA – Depression	GA – Well-being	Quality Rating
Thompson et al., 2013	Cancer (Time 1: *N* = 114, Time 2: *N* = 103)	**Dispositional GAS** *Goal Adjustment Scale*. Cronbach's α = .74 and .84 for disengagement and reengagement, respectively **Situational GAS** *Author constructed scale*. Situational goal adjustment was assessed using a previously developed scale which was adapted from an infertility-specific context to cancer (Thompson et al., 2011). It was reduced from 15 items to 6. The	**Depression** *CES-D*. Cronbach's α = .89 and .88 at time 1 and time 2. **Well-being** Life satisfaction was measured using the *Satisfaction with Life Scale*. Cronbach's α = .87, based on previous research Sense of purpose was assessed using an adapted form of the *Purpose*	In separate regression analyses, neither dispositional GD (β = -.13) nor situational GD (β = -.19) were related to depression scores at baseline. However, higher situational GD predicted an increase in depression symptoms between baseline and 3-months later (β = .25). Dispositional and situational GR significantly predicted lower levels of depression symptoms at baseline. Changes in dispositional or situational GR did not predict changes in depression symptoms. When dispositional and situational measures of GD and GR were entered in the same model predicting adjustment measures at baseline, situational GD (β = -.25) and situational GR (β = -.23) were negatively associated with depression symptoms. No interactions between dispositional or situational GD	**Purpose in Life** When assessed in separate regression analyses, dispositional GR (β = .39) and situational GR (β = .27) were associated with higher sense of purpose in life at baseline. No association was found for dispositional GD (β = -.12) or situational GD (β = .16) on purpose of life. Changes in dispositional and situational GD and GR did not predict changes in purpose in life over time. . When dispositional and situational measures of GD and GR were entered in the same model for adjustment measures at time 1, dispositional GR was positively related to a sense of purpose (β = .34). No other significant associations were found. No interactions between dispositional or situational GD and GR were significant in the	**Strengths** Longitudinal design enables investigation of temporal relationship. Low attrition Considers both situational and dispositional goal adjustment. Response rate: 64% Controlled for sociodemographic variables **Limitations** Short follow-up time frame (3 months). Author-constructed GAS scale that was modified, potentially impacting on validity and reliability of

		disengagement subscale consisted of 2 items, assessing current goal focus and their appraisal of relinquishing a goal. The reengagement subscale captures pursuit of new and alternative goals. Cronbach's α = .67 and.81 for disengagement and reengagement, respectively	*in Life Scale*, with 6 items. Cronbach's α = .88, based on previous research	and GR were significant in the analyses predicting depression symptoms at any time point.	analyses predicting purpose in life at any time point. **Life Satisfaction** In separate regression analyses, dispositional GR (β = .25) and situational GR (β = .23) were associated with higher life satisfaction at time 1. Dispositional GD (β = .11) and situational GD (β = .03) did not predict life satisfaction at baseline. Changes in dispositional and situational GD and GR did not predict changes in purpose in life over time. When dispositional and situational measures of GD and GR were entered in the same model for adjustment measures at baseline, no significant association was found between goal adjustment and life satisfaction. No interactions between dispositional or situational GD and GR were significant in the analyses predicting life satisfaction at any time point.	scale. Results may not be generalisable. Small sample size. Self-report measures. **Overall Rating** Weak
Zhu et al., 2015	Cancer (Time 1: *N* = 401,	**Dispositional GAS** 	**Depression** The 16-item	Increases in GR significantly predicted decreases in depressive symptoms between	NI	**Strengths** Longitudinal design.

	Time 2: *N* = 241)	*Goal Adjustment Scale*. Cronbach's α = .82 and .81 for GD at time 1 and time 2. Cronbach's α = .87 and .86 for GR at time 1 and time 2.	negatively keyed item version of *CES-D.* Cronbach's α = .88 and .92 for time 1 and time 2 respectively.	baseline and nine month follow-up (β = -.37), when controlling for baseline levels. Changes in GD did not predict changes in depression symptoms (β = -.09). No significant interaction was found between changes in GD X GR on changes in depression symptoms. Therefore, the analysis was subsequently repeated without the interaction term (see above results).		Good sample size. Response rate: 63% Controlled for baseline levels of GAS and symptoms. **Limitations** High attrition at follow-up. No control group. Participants received different psychological interventions. Self-report measures. **Overall Rating** Moderate
Kraaij et al., 2010	Infertility (Time 1: *N* = 310, Time 2: *N* =139)	**Situational GAS** *Goal Obstruction Questionnaire.* Cronbach's α = .86 and .86 for disengagement and reengagement, respectively.	**Depression** *HADS* . Cronbach's α = .77 for depression.	GR had a significant negative relationship with depression symptoms at baseline (β = -.17) but not nine months later (β = -.09). GD (Time 1: β = .02; Time 2: β = -.03) along with the interactive effect of GD X GR were non-significant at both time points.	NI	**Strengths** Longitudinal research, which enables examination of a temporal relationship. Good sample size. Controlled for gender and

						infertility characteristics Response rate: 52% . **Limitations** High attrition at follow-up. Participants self-referred meaning the sample may not be representative. Self-report measures. Did not control for previous depression scores. **Overall Rating** Moderate
Thompson et al., 2011	Infertility (Time1: *N* = 97, Time 2: *N* = 47)	**Situational GAS** *Author-constructed scale*. A situational measure of flexible goal adjustment was constructed by the author. The questionnaire comprised 19	**Depression** *CES-D*	A significant negative association was found between general goal engagement and lower depression symptoms in women at baseline (β = -.27), with this association qualified by a significant GD X GR interaction (β = .22). No significant main effect was found for GD (β = -.03) or general engagement in direct response to infertility (β = -.00).	NI	**Strengths** Considers situational adjustment in the context of infertility. Longitudinal design. Response rate: 87% Controlled for Time 1

		items covering aspects of disengagement from the goal of having a baby (Cronbach's α = .92), general goal engagement with pre-existing goals (Cronbach's α = .89) and engagement with new goals prompted by fertility difficulties (Cronbach's α = .88).		Average to low levels of GD in combination with high goal general engagement was linked to lower levels of depression symptoms. High GD and general goal engagement were not significantly associated with depression symptoms. However, average to low levels of disengagement coupled with low general goal engagement was associated with higher depression symptoms . Baseline measures of goal adjustment measures did not emerge as significant predictor of change in depression symptoms at 6-month follow-up.		psychological adjustment variables and treatment length. **Limitations** Author-constructed questionnaire may have questionable validity. High attrition at follow-up. Self-report measures. **Overall Rating** Moderate
Neter et al., 2009	MS (*N* = 101)	**Dispositional GAS** *Goal Adjustment Scale*. Cronbach's α = .79 for GD and .91 for GR	**Depression** *HADS*. Cronbach's α = .78 for depression. **Well-being** *The Purpose in Life Scale*. Cronbach's α = .92	In cross-sectional analysis, a significant positive association was found for GD (β = 1.01), with this qualified by a GD X GR interaction (β = -1.14) . No significant association was found for GR (β = .60). The most depressed individuals were those high on GD and low on GR. The least depressed were those low on both GD and GR.	**Purpose in Life** No significant effects	**Strengths** Participants drawn randomly from specialist clinic, measures have good reliability Controlled for education and disease severity **Limitations** Self-report measures.

						Response rate not reported. **Overall Rating** Moderate
Van Damme et al., 2019	MS (*N* = 97)	**Situational GAS** A modified version of the Dutch version of *Goal Adjustment Scale*. Cronbach's α = .63 and .89 for disengagement and reengagement, respectively. The instructions were adjusted to that individuals rated the items in the context of goal disturbance by MS.	**Depression** The Dutch version of *HADS*. Cronbach's α = .74 for depression.	In cross-sectional analysis, only GR had a significant negative association for depression symptoms (β = -.30). GD (β = .03) and the GD X GR interaction (β = -.14) did not add any explanatory value to the model.	NI	**Strengths** Provides a snapshot of goal adjustment tendencies in MS patients Controlled for physical impairment **Limitations** Participants identified by neurologist which may limit the representative nature of the sample and impact external validity. Use of modified GAS scale, with questionable reliability. Response rate not reported. Self-report measures.

						Overall Rating Weak
Arends et al., 2013	Pain: Polyarthritis (*N* = 305)	**Dispositional GAS** *Goal Adjustment Scale*. Cronbach's α = .53 and .88 for disengagement and reengagement, respectively.	**Depression and Anxiety** *HADS*. Cronbach's α = .83 for depression. **Well-being** *Purpose in Life Scale*. Cronbach's α = .82	In cross-sectional analysis, GR had a significant negative association with depression symptoms (β = -.11). GD (β = -.04) and the GD X GR interaction did not offer any significant explanation for the model.	**Purpose in Life** In cross-sectional analysis, GR had a significant positive association for purpose in life (β = .13). GD (β = .01) and the GD X GR interaction did not offer any significant explanation for the model.	**Strengths** Provides a snapshot of goal adjustment tendencies in people with polyarthritis. Good sample size. Random selection of participants. Controlled for age, gender and work situation **Limitations** GD has low reliability. Self-report measures. Response rate < 50% **Overall Rating** Moderate
Ramirez-Maestre et al., 2018	Pain: Chronic musculoskeletal pain (*N* = 258)	**Dispositional GAS** Spanish version of the *Goal Adjustment Scale*.	**Well-being** Spanish version of the *Purpose in Life Scale*.	NI	**Purpose in Life** In cross-sectional analysis, GR (β = .34) was positively associated with purpose in life while GD (β = -.34) was	**Strengths** Provides a snapshot of goal adjustment tendencies in people with

		Cronbach's α = .70 and .94 for disengagement and reengagement, respectively.	Cronbach's α = 0.89		negatively related to purpose in life. The GD X GR interaction did not make a significant contribution (β = .03).	chronic musculoskeletal pain. Good sample size. Response rate 66% **Limitations** Participants have high levels of pain which may limit generalisability. Self-report measures. Control of confounding variables not reported **Overall Rating** Moderate
Wrosch et al., 2003; study 1	Undergraduate students (*N* = 115)	**Dispositional GAS** *Goal Adjustment Scale*. Early development of scale, with Cronbach's α = .84 and .86 for disengagement and reengagement,	**Well-being** *Purpose in Life Scale* Cronbach's α = .81	NI	**Purpose in Life** In cross-sectional analysis, GR predicted high levels of purpose in life (β = .49) but no association was found for GD (β = .02). The GD X GR interaction was non-significant (β = .10).	**Strengths** Provides a snapshot of goal adjustment tendencies. Controlled for gender and race. **Limitations** High proportion of males may

		respectively.				limit generalisability. Self-report measures. Response rate not reported. **Overall Rating** Weak
Wrosch et al., 2007; study 3	Undergraduate students (Time 1: *N* = 81,Time 2: *N* = 65)	**Dispositional GAS** *Goal Adjustment Scale*. Cronbach's α = .82 and .88 for disengagement and reengagement, respectively.	**Well-being** *Satisfaction with Life Scale* Cronbach's α = .78 and α =.80 for time 1 and time 2, respectively	NI	**Life Satisfaction** GD and GR did not significantly predict changes in life satisfaction. However, a significant interaction between GD X GR on changes in life satisfaction was found (R^2 = .08). Specifically, problems with goal disengagement coupled with low goal reengagement predicted decline in life satisfaction, but not amongst those with high reengagement.	**Strengths** Longitudinal design. Controlled for sociodemographic variables. **Limitations** Short follow-up time frame (2 months). University sample and high proportion of females may limit generalisability. Self-report measures. Small sample size Response rate not reported. **Overall Rating** Weak

Wrosch et al., 2007; study 1	Various: Community adults (*N* = 150)	**Dispositional GAS** *Goal Adjustment Scale*. Cronbach's α = .69 and .89 for disengagement and reengagement, respectively.	**Depression** *CES-D*. Cronbach's α = .84.	In cross-sectional analysis, GD was significantly associated with lower levels of depression symptoms (β = -.27). No association was found for GR. The interaction effect of GD X GR on depression symptoms was not significant.	**Strengths** Provides snapshot of goal adjustment tendencies in a community sample Controlled for sociodemographic variables. **Limitations** Sample who self-referred following advertisement with an incentive, therefore sample may not be representative. Self-report measures. Response rate unable to determine. GD has questionable reliability. **Overall Rating** Weak

Wrosch et al., 2011	Various: Caregivers of family members with mental health difficulties (Time 1: *N* =153, Time 2: *N* = 121	**Dispositional GAS** *Goal Adjustment Scale*. Cronbach's α = .75 and .91 for GD and GR, respectively.	**Depression** *CES-D*. Cronbach's α = .90 and .89 for baseline and follow-up, respectively. **Well-being** Purpose in life was assessed using the *Life Engagement Test*. Cronbach's α = .81 and .72 for baseline and follow-up, respectively.	High baseline levels of GD were associated with lower levels of depression symptoms at time 1 (β = -.18). However, the addition of caregiver burden rendered this association non-significant. Baseline GD did not predict changes in depression symptoms 17 months later (β = -.07). The main effect of GR was non-significant at baseline (β = -.04) and at follow-up (β = .12). There were no significant interaction effects between GD x GR on depression symptoms at baseline or follow-up.	**Purpose in life** High GR was associated with higher levels of purpose in life at baseline (β = .26) but not 17 months later (β = .11). The main effect and the GD X GR interaction was not significant at either time point.	**Strengths** Longitudinal design. Good follow-up time frame (17-months). Low attrition Controlled for relevant variables **Limitations** Self-report measures. High proportion of females, thereby potentially limiting generalisability. No response rate documented. **Overall Rating** Moderate

Note. Ref = Reference; GA = Goal adjustment; NI = Not investigated; GD = Goal disengagement; GR = Goal reengagement; HADS = Hospital Anxiety and Depression Scale; CES-D = Centre for Epidemiologic Depression Scale.

Exposure Measure

Most studies (*K* = 9) used the Goal Adjustment Scale (GAS; Wrosch et al., 2003) as a trait measure of goal disengagement (four items) and reengagement with other meaningful goals (six items) in response to unattainable goals. While the GAS was in its formative stage, the disengagement items were each rated in response to three different scenarios reflective of goal blockage (e.g., lost opportunities; Wrosch, 2003, Study 1). The scenarios were subsequently removed to reduce participation time. One subsequent study opted for the GAS but modified the scale so that items were rated in the context of a goal blocked by multiple sclerosis (Van Damme et al., 2019). Many of the studies have used translations of the scale including Dutch, Hebrew, and Spanish versions.

The Goal Obstruction Questionnaire (unpublished measure) was used in one study (Kraaij et al., 2010). It measures disengagement and reengagement tendencies when an important life goal becomes unattainable due to a stressor such as infertility. It was considered a situational measure of goal adjustment. Respondents reported on their goal disengagement and reengagement tendencies across four life domains: work, social relationships, leisure activities and caring and domestic tasks.

Another questionnaire was developed in one of the studies to assess goal adjustment in the context of infertility (Thompson et al., 2011). It compromises 15 items, which covers three factors, namely, general disengagement ability, new goal pursuit in direct response to infertility and alternative goal pursuit unprompted by infertility. This measure was also adapted for use in cancer patients (Thompson et al., 2013). It was shortened

and reduced from 15 items to 6 items, to reduce burden on participants. Respondents were asked to rate the questions, thinking about a goal they had given up due to the cancer or cancer treatment.

Outcome Measure

Depression was measured using the Hospital Anxiety and Depression Scale (HADS, Zigmond & Snaith, 1983; *K* = 4) or the Centre for Epidemiologic Studies Depression Scale (CES-D, Radloff, 1977; *K* = 5). For well-being, purpose in life was mostly measured using the purpose in life subscale of the Ryff Scales of Psychological Well-being (Ryff, 1989, K = 5). One study used the Life Engagement Test (Scheier et al., 2006). Two studies used the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985; *K* = 2).

Study Design

Six of the studies used cross-sectional designs while six studies used a prospective design with the follow-up period ranging from 2 months to 17 months and consisting of one follow-up measurement.

Summary of Findings

Flexible Goal Adjustment and Depression

Nine studies considered the relationship between goal disengagement, goal reengagement and depression indicators. Two of the nine studies demonstrated a significant interactive effect between goal disengagement and goal reengagement on depression (Neter et al., 2009; Thompson et al., 2011; see Table 5).

Table 5

Overview of the Findings for Depression in Alphabetic Order by Population

Population and Reference	Analysis	Main effect GD	Main effect GR	Interaction GD X GR
Cancer (Thompson et al., 2013)	Cross-sectional	Yes	Yes	No
	Prospective	No	No	No
Cancer (Zhu et al., 2015)	Prospective	No	Yes	No
Infertility (Kraaij et al., 2010)	Cross-sectional	No	Yes	No
	Prospective	No	No	No
Infertility (Thompson et al., 2011)	Cross-sectional	No	Yes	Yes
	Prospective	No	No	No
MS (Neter et al., 2009)	Cross-sectional	Yes	No	Yes
MS (Van Damme et al., 2019)	Cross-sectional	No	Yes	No
Polyarthritis (Arends et al., 2013)	Cross-sectional	No	Yes	No
Various others: Community (Wrosch et al., 2007, S1)	Cross-sectional	Yes	No	No
Various others: Caregivers (Wrosch et al., 2011)	Cross-sectional	Yes	No	No
	Prospective	No	No	No

Cancer. Two studies considered the relationship between goal adjustment and depression in cancer patients, with the samples differing in terms of time post-diagnosis and cancer type. Zhu et al. (2015) examined the prospective relationship of goal adjustment on depression in a sample of cancer patients who were undergoing psychosocial care, using a dispositional measure of goal adjustment. They found that increases in goal reengagement between baseline and a nine month follow-up were related to decreases in depression symptoms. Unexpectedly, neither goal disengagement nor the interaction effect between goal reengagement and goal disengagement were significant. Some

of these findings were partially observed in a similar longitudinal study involving women with stage IV metastatic breast cancer over a three month period (Thompson et al., 2013). They incorporated measures of dispositional and situational goal adjustment in recognition that individuals may not respond to a blocked goal in a typical way in the context of a stressor. They found that both dispositional and situational goal reengagement but not disengagement predicted lower levels of depression at baseline. Moreover, they found that higher initial situational goal disengagement was related to increases in depression over time, with this finding being unexpected. It was argued that relinquishing important goals is potentially distressing in the short-term, however, longer term follow-up is required to test this suggestion. In summary, there appears to be some convergence between the two studies relating to the benefits of goal reengagement on depression symptoms. Additionally, goal disengagement either had no association or was deleterious in terms of depression symptoms.

Infertility. Two studies explored flexible goal adjustment and its association with depression in individuals with infertility. Thompson et al. (2011) recruited women seeking fertility treatment over a six-month follow-up period and administered an author-constructed scale of situational goal adjustment in direct response to a blocked goal (i.e., unsuccessful infertility treatment). The association between higher general goal engagement with pre-existing goals and lower depression scores at baseline was qualified by a significant interaction. Low disengagement from the goal of having a child plus low general goal engagement was linked to higher depression scores. Conversely, higher general goal engagement combined with average to low levels of disengagement was associated with the lowest levels of depression. However,

general goal engagement in combination with high disengagement was not associated with depression. In a similar study, Kraaij et al. (2010) recruited both men and women undergoing fertility treatment. The study incorporated analyses of both cross-sectional and prospective relationships, making use of the Goal Obstruction Scale to examine goal disengagement and reengagement. Goal reengagement which was measured at baseline was negatively associated with baseline depression scores but not nine months later at follow-up. Neither goal disengagement nor the interaction between goal adjustment variables explained significant variance in the experience of depression at either time point, with these results being inconsistent with the findings of Thompson et al. (2011). Based on these studies, goal adjustment appears relevant to the prediction of depression symptoms, with elevated goal reengagement and general goal engagement (i.e., pre-existing goals) accompanying the lowest depression scores. Furthermore, general goal engagement appeared to buffer the negative effects of low disengagement from the goal of parenthood in one of the studies.

Multiple Sclerosis (MS) and Pain. In cross-sectional research, Neter et al. (2009) found a significant main effect for goal disengagement, which was qualified by a significant interaction such that individuals with MS who reported both high disengagement and low goal reengagement had higher depression scores. This, potentially harmful pattern was considered consistent with Carver and Scheier's (2003) concept of complete disengagement. Intermediate levels of depression were predicted by high reengagement. Interestingly, the authors also found that the least depressed were those who had both low goal disengagement and reengagement scores. While unexpected, the authors posited that the experience of chronic illness may present a scenario where the capacity for reengagement in new goals may be limited if not challenging,

particularly if the progression or stage of a condition is characterised by a higher perceived or actual disability. Based on this, it is potentially more beneficial in this instance to maintain progress towards pre-existing goals without making any additional changes over and above those that are required. However, this finding was not replicated in another group of individuals with MS (Van Damme et al., 2019). Instead, they found that higher goal reengagement was associated with lower depression scores but there was no significant interaction effect. The two MS studies differed in two respects: 1) the instructions provided to participants in regards to the goal adjustment tool (i.e., GAS) were modified in one study (Van Damme et al., 2019), thereby potentially affecting the validity of the measure and 2) they used distinct participant selection methods, with one study opting for a random sample of participants in an MS clinic (Neter et al., 2009) whereas the second study identified participants via a neurologist at routine appointments (Van Damme et al., 2019). This could mean that the Van Damme's sample were not representative of all MS patients. Moreover, the disability status differed between the studies, with the randomly selected participants scoring higher on a disability scale compared to those identified by the neurologist. Similar to these studies, Arends et al. (2013) found that actively pursuing new goals was linked to lower depression in those with a polyarthritis diagnosis. The main effect for goal disengagement was found to be non-significant although caution was urged in terms of its interpretation given the low reliability of the subscale.

To summarise, goal adjustment appears to be relevant to the prediction of depression symptoms although the effect for goal reengagement does not follow the same trend in the two MS studies. Perhaps, the benefits of goal reengagement is dependent on the individual's ability to adjust goal pursuit

given their disability status. These findings suggest that goal reengagement or engagement with current unattainable goals when pursuit of alternative goals may be challenging is potentially beneficial.

Various other populations. The association of dispositional goal adjustment tendencies with depression was also explored in cross-sectional research involving a sample of community adults (Wrosch et al., 2007, study 1) and caregivers (Wrosch et al., 2011). In a sample of community adults, a hierarchical regression indicated that goal disengagement negatively predicted depression scores. The main effect of goal reengagement and the interaction between the goal adjustment variables was not significant. Similarly, higher goal disengagement predicted low depression scores at baseline amongst carers of a family member with a mental health difficulty but not 17-months later. Overall, these studies showed consistent findings related to goal disengagement and depression, which were in contrast to the physical health groups.

Overview of findings. An interaction effect between goal disengagement and reengagement has not been universally found in studies assessing depression measures, with the exception of two studies (Neter et al., 2009; Thompson et al., 2011). Rather, some have found a main effect for goal disengagement, reengagement or both. Four of the reviewed studies found main effects for goal reengagement and no significant interactive effect in depression across different participant groups, including those with a diagnosis of MS or a polyarthritis diagnosis along with individuals undergoing cancer or infertility treatment (Arends et al., 2013; Kraaij et al., 2010; Van Damme et al., 2019; Zhu et al., 2015). It could be argued that there are potential adaptive benefits of reengagement or engagement with pre-existing goals for people with

physical health conditions. However, contrary to this, two studies obtained a main effect for goal disengagement on depression symptoms in community adults and carers in cross-sectional analysis, with high disengagement linked to lower depression (Wrosch et al., 2007, study 1; Wrosch et al., 2011). Additionally, a main effect for both goal disengagement and reengagement was found in a sample of cancer patients (Thompson et al., 2013). Overall, these findings supports the independent contributions of goal disengagement and reengagement in depression symptoms, with goal reengagement appearing to be the most consistent finding. However, this association is likely to depend on the availability of personal resources and having the ability to pursue new goals. Goal disengagement was less predictive of depression symptoms, both in cross-sectional and longitudinal analysis.

Flexible Goal Adjustment and Well-being

Eight of the 12 studies examined whether goal adjustment variables predicted either purpose in life or life satisfaction, with one of these studies obtaining a significant interaction. The overall results are illustrated in Table 6.

Table 6

Overview of the Findings for Well-being in Alphabetic Order by Author

Well-being variable	Reference	Analysis	Main effect GD	Main effect GR	Interaction GD X GR
Purpose in life	Arends et al., 2013	Cross-sectional	No	Yes	No
	Neter et al., 2009	Cross-sectional	No	No	No
	Ramirez et al., 2018	Cross-sectional	Yes	Yes	No
	Thompson et al., 2013	Cross-sectional	No	Yes	No
		Prospective	No	No	No
	Wrosch et al., 2003, S1	Cross-sectional	No	Yes	No
	Wrosch et al., 2011	Cross-sectional	No	Yes	No
		Prospective	No	No	No
Life satisfaction	Thompson et al., 2013	Cross-sectional	No	Yes	No
		Prospective	No	No	No
	Wrosch et al., 2007, S3	Prospective	No	No	Yes

Purpose in life. Purpose in life was examined as an outcome variable in six of the 12 studies. Not one study found an interaction effect between goal disengagement and goal reengagement on purpose in life. Rather, four studies found a positive main effect of goal reengagement on purpose in life. This finding was observed in individuals with polyarthritis, cancer, those with a family member with a mental health difficulty along with a sample of university students, suggestive of a robust finding (Arends et al., 2013; Thompson et al., 2013; Wrosch et al., 2011; Wrosch et al., 2003, study 1). One study involving participants with chronic musculoskeletal pain found a main effect for higher goal reengagement and lower goal disengagement predicting purpose in life

(Ramirez et al., 2013). The final study, which comprised MS patients, did not find any significant effects (Neter et al., 2009). On average, respondents appeared to endorse high levels of purpose in life irrespective of goal adjustment capacities. Generally, these findings are not surprising given the commonalities that exist between purpose in life and goal reengagement, with both concepts capturing elements such as a pursuit of goals, direction and a search for meaning. Based on this, the consistent findings for goal reengagement and lack of findings for goal disengagement makes conceptual sense given the purpose in life construct.

Life satisfaction. Two studies examined goal adjustment variables and life satisfaction, with one of these studies finding a significant interaction effect. In a sample of university students, low disengagement predicted a decline in life satisfaction amongst those who also experienced difficulty reengaging in alternative goals but not among those who endorsed high reengagement (Wrosch et al., 2007, study 3). In cancer patients, both dispositional and situational goal reengagement predicted higher life satisfaction (Thompson et al., 2013). In summary, goal reengagement was related to higher life satisfaction in both studies, with it further buffering the negative effects of low disengagement in university students.

Discussion

The review highlighted inconsistent results regarding patterns of flexible goal adjustment in relation to indicators of depression and well-being. The varied findings were observed across and within the different participant cohorts, although goal reengagement appears to be the most consistent predictor of depression and well-being indicators. Of the 12 studies reviewed,

three demonstrated significant interactive effects of goal disengagement and reengagement on the outcome measures. For the most part, either a main effect or an interaction effect was found in the different studies in cross-sectional analysis. The associations in prospective analysis were mostly non-significant. It is also important to note the results were not always in the predicted direction (e.g., Ramirez et al., 2018; Thompson et al., 2013) and publication bias may overstate significant findings. While the current findings do not reliably support an interaction hypothesis, they do highlight independent contributions of goal disengagement and goal reengagement for various indices of psychological well-being. For instance, all studies reported effects for one variable while controlling for the other. However, this latter suggestion has not been systematically reviewed in the current report due to the review requiring studies to include both additive and interactive effects.

In terms of quality assessment, the studies were considered low to medium quality. Of particular relevance was the use of different measures of goal adjustment along with author-constructed questionnaires. This, in conjunction with the modifications to scales, may have impacted on their reliability and validity. Notably, unreliable measures present problems in terms of reproducibility and data quality. The studies also made use of cross-sectional and longitudinal designs. However, correlational designs limit the ability to draw conclusive support as to any causality between goal adjustment and psychological well-being. Therefore, it remains unclear if impaired psychological well-being affects goal adjustment or vice versa. While the longitudinal designs improve upon this limitation in terms of examining temporal relationships, many of the studies had short follow-up periods and half had high levels of attrition. Additionally, many of the studies were comprised of small to medium sample

sizes, which pose problems for examining interactions with this analysis requiring large numbers (Abraham & Russell, 2008). Based on this, the findings may have been underpowered to detect such interactions.

The findings within this review supports the assertion that goal disengagement and reengagement are at least partially independent processes (Scheier & Carver, 2001; Wrosch et al., 2003). It has been theorized that individuals may disengage from an unattainable goal before reengaging in new goals at a later point or vice versa. It is further argued that goal reengagement may be adaptive in either situation, such that it reinforces purpose in life and a sense of control (Wrosch et al., 2003). In the majority of the studies reviewed, goal reengagement had a beneficial association with either a depression or well-being indicator (e.g., Zhu et al., 2015). Also, some studies suggested the importance of goal disengagement in alleviating depression (e.g., Wrosch et al., 2007, study 1) although this was a less consistent finding. Nevertheless, the findings highlight the benefits of being able to adjust goals in response to obstacles. Though, the relative importance of either process remains unclear as does the variables' potential to interact. Perhaps, the effects of goal reengagement do not depend on goal disengagement, which potentially suggests that goal reengagement may actually help people to disengage if required.

Interestingly, the discrepant findings were often explained in term of the different populations and lifespan perspectives (e.g., Neter et al., 2009; Wrosch et al., 2003). It was also argued that goal disengagement and goal reengagement might not be universally adaptive and their health impact may vary and be dependent on situational constraints (e.g., ill health, availability of

alternative goals, functional decline). This notion was mostly presented in studies that focused on situational goal adjustment. For instance, it could be argued that the responses to a dispositional measure of goal adjustment may reveal general tendencies for an individual based over time, whereas situational adjustment in response to a stressor may be heavily influenced by the event type, available resources, stressor severity and controllability (Carver & Connor-Smith, 2010). As such, an individual may not respond to blocked goals in a typical way in the context of ill health (Thompson et al., 2013).

The findings of this review are generally consistent with theoretical accounts which posits that flexible goal adjustment in response to an unattainable goal may reflect an adaptive and protective form of self-regulation (Brandstadter & Renner, 1990; Wrosch et al., 2003). Central to Carver and Scheier's (2003) theory is the notion that people live to pursue and attain valued goals, whereby they strive for a sense of meaning, fulfilment and accomplishment. Subsequently it can be inferred that engagement with goals is key to the maintenance of well-being, which was observed in the studies depicted in this review. In these studies, reengaging in alternative goals in response to a blocked goal or remaining engaged with pre-existing goals was predictive of lower depression symptoms, higher life satisfaction and purpose in life. Conversely, the highest depression scores were generally observed amongst those with low reengagement scores, with one study illustrating a pattern of complete disengagement from goals (i.e., high disengagement and low reengagement). Another important aspect of self-regulation is goal disengagement from unattainable goals (Carver & Scheier, 1998; Wrosch et al., 2003). In this instance, it is argued that disengagement will be adaptive when it leads to the pursuit of alternative goals (Carver and Scheier, 2003). However,

failure to disengage from an unattainable goal has been theorized to result in higher tendencies to ruminate and depression (Pyszszcynski & Greenberg, 1987). Notably, the benefits of goal disengagement was not consistently found in the review. Rather, the experience of having alternative goals that are valued seems necessary for optimal self-regulation, with this process potentially helping to buffer the distress associated with disengagement from an important goal or failed disengagement itself (Carver & Scheier, 1999; Wrosch et al., 2003).

In terms of clinical implications, this review highlights the benefits of some degree of goal engagement when faced with an unattainable goal. Ideally, this should involve a review of the availability of alternative goals and the ability to pursue these goals in a way that does not exceed personal resources. This is likely to be a key consideration when working with individuals with physical health conditions, where disability status may vary and make goal reengagement challenging. In these circumstances, it may prove more helpful to engage in pre-existing goals. These implications are consistent with current treatments for depression. For instance, behavioural activation involves the identification of goals and the scheduling of activities which targets avoidance such as social withdrawal (Veale, 2008). In this way, the individual is being helped to act in line with their goals. Similarly, Acceptance and Commitment Therapy (ACT) offers additional utility, by encouraging individuals to live a life in accordance with their values. Furthermore, ACT also encourages and targets flexible coping with respect to life goals and values, which fits with the results of this review (Hayes, Strosahl, & Wilson, 1999).

The review has several limitations that warrant consideration. Firstly, studies that were not peer reviewed and published in the English language were

omitted from the review. Moreover, this review focused on eudaimonic aspects of well-being which is a complex construct that is not always easy to identify or measure. Additionally, the review consists predominately of physical health populations, which may not be reflective of clinical depression.

All studies made use of self-report measures, with this requiring introspective ability. It is not known if this insight reflects actual behaviour or if responses indicate a degree of socially desirable responses, particularly in western societies where perseverance in the pursuit of goals is promoted. Related to this, the research questionnaires did not capture if the goals individuals considered were in fact unattainable as opposed to attainable goals they could be relinquishing too easily.

Future research would benefit from achieving more consistency and precision in terms of the measures that are used to assess goal adjustment, given the questionable reliability observed in some studies. This could be further supported through the use of alternative designs, encompassing behavioural paradigms, experimental designs or qualitative methods such as interviews to offer a useful adjunct to questionnaire findings. More longitudinal designs are required with longer follow-up time frames and the measurement of goal adjustment at multiple time points, which could aid understanding of the direction of causality between goal adjustment and psychological well-being. It may prove useful to consider the interaction between goal adjustment variables and life events in predicting consequences over time, as changes in psychological well-being may not become apparent unless goal pursuit is actually threatened. Additionally, when considering situational goal adjustment, it may be useful to consider the short and long term consequences of goal

blockage (Kraaij et al., 2009) or more generally the factors that impede or facilitate goal adjustment (Thompson et al., 2011).

This review does not provide support for the interaction hypothesis but does offer some evidence for the individual contribution of goal disengagement and particularly goal reengagement on indicators of psychological wellbeing. However, the research to date has been marked with inconsistency in terms of the measures of goal adjustment. Further research that improves upon these limitations is warranted. In conclusion, the findings reflect the beneficial association of goal reengagement with psychological outcomes, suggesting useful approaches to therapy that fit within current treatments for depression.

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Appendix A

Quality Assessment Tool for Observational Cohort and Cross-sectional Studies

National Heart, Lung, and Blood Institute

Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies

Criteria	Yes	No	Other (CD, NR, NA)*
1. Was the research question or objective in this paper clearly stated?			
2. Was the study population clearly specified and defined?			
3. Was the participation rate of eligible persons at least 50%?			
4. Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?			
5. Was a sample size justification, power description, or variance and effect estimates provided?			
6. For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?			
7. Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?			
8. For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?			
9. Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?			
10. Was the exposure(s) assessed more than once over time?			
11. Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?			
12. Were the outcome assessors blinded to the exposure status of participants?			
13. Was loss to follow-up after baseline 20% or less?			
14. Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?			

Quality Rating (Good, Fair, or Poor) (see guidance)
Rater #1 initials:
Rater #2 initials:
Additional Comments (If POOR, please state why):

*CD, cannot determine; NA, not applicable; NR, not reported

Guidance for Assessing the Quality of Observational Cohort and Cross-Sectional Studies

The guidance document below is organized by question number from the tool for quality assessment of observational cohort and cross-sectional studies.

Question 1. Research question

Did the authors describe their goal in conducting this research? Is it easy to understand what they were looking to find? This issue is important for any scientific paper of any type. Higher quality scientific research explicitly defines a research question.

Questions 2 and 3. Study population

Did the authors describe the group of people from which the study participants were selected or recruited, using demographics, location, and time period? If you were to conduct this study again, would you know who to recruit, from where, and from what time period? Is the cohort population free of the outcomes of interest at the time they were recruited?

An example would be men over 40 years old with type 2 diabetes who began seeking medical care at Phoenix Good Samaritan Hospital between January 1, 1990 and December 31, 1994. In this example, the population is clearly described as: (1) who (men over 40 years old with type 2 diabetes); (2) where (Phoenix Good Samaritan Hospital); and (3) when (between January 1, 1990 and December 31, 1994). Another example is women ages 34 to 59 years of age in 1980 who were in the nursing profession and had no known coronary disease, stroke, cancer, hypercholesterolemia, or diabetes, and were recruited from the 11 most populous States, with contact information obtained from State nursing boards.

In cohort studies, it is crucial that the population at baseline is free of the outcome of interest. For example, the nurses' population above would be an appropriate group in which to study incident coronary disease. This information is usually found either in descriptions of population recruitment, definitions of variables, or inclusion/exclusion criteria.

You may need to look at prior papers on methods in order to make the assessment for this question. Those papers are usually in the reference list.

If fewer than 50% of eligible persons participated in the study, then there is concern that the study population does not adequately represent the target population. This increases the risk of bias.

Question 4. Groups recruited from the same population and uniform eligibility criteria

Were the inclusion and exclusion criteria developed prior to recruitment or selection of the study population? Were the same underlying criteria used for all of the subjects involved? This issue is related to the description of the study population, above, and you may find the information for both of these questions in the same section of the paper.

Most cohort studies begin with the selection of the cohort; participants in this cohort are then measured or evaluated to determine their exposure status. However, some cohort studies may recruit or select exposed participants in a different time or place than unexposed participants, especially retrospective cohort studies–which is when data are obtained from the past (retrospectively), but the analysis examines exposures prior to outcomes. For example, one research question could be whether diabetic men with clinical depression are at higher risk for cardiovascular disease than those without clinical depression. So, diabetic men with depression might be selected from a mental health clinic, while diabetic men without depression might be selected from an internal medicine or endocrinology clinic. This study recruits groups from different clinic populations, so this example would get a "no."

However, the women nurses described in the question above were selected based on the same inclusion/exclusion criteria, so that example would get a "yes."

Question 5. Sample size justification

Did the authors present their reasons for selecting or recruiting the number of people included or analyzed? Do they note or discuss the statistical power of the study? This question is about whether or not the study had enough participants to detect an association if one truly existed.

A paragraph in the methods section of the article may explain the sample size needed to detect a hypothesized difference in outcomes. You may also find a discussion of power in the discussion section (such as the study had 85 percent power to detect a 20 percent increase in the rate of an outcome of interest, with a 2-sided alpha of 0.05). Sometimes estimates of variance and/or estimates of effect size are given, instead of sample size calculations. In any of these cases, the answer would be "yes."

However, observational cohort studies often do not report anything about power or sample sizes because the analyses are exploratory in nature. In this case, the answer would be "no." This is not a "fatal flaw." It just may indicate that attention was not paid to whether the study was sufficiently sized to answer a prespecified question–i.e., it may have been an exploratory, hypothesis-generating study.

Question 6. Exposure assessed prior to outcome measurement

This question is important because, in order to determine whether an exposure causes an outcome, the exposure must come before the outcome.

For some prospective cohort studies, the investigator enrolls the cohort and then determines the exposure status of various members of the cohort (large epidemiological studies like Framingham used this approach). However, for other cohort studies, the cohort is selected based on its exposure status, as in the example above of depressed diabetic men (the exposure being depression). Other examples include a cohort identified by its exposure to fluoridated drinking water and then compared to a cohort living in an area without fluoridated water, or a cohort of military personnel exposed to combat in the Gulf War compared to a cohort of military personnel not deployed in a combat zone.

With either of these types of cohort studies, the cohort is followed forward in time (i.e., prospectively) to assess the outcomes that occurred in the exposed members compared to nonexposed members of the cohort. Therefore, you begin the study in the present by looking at groups that were exposed (or not) to some biological or behavioral factor, intervention, etc., and then you follow them forward in time to examine outcomes. If a cohort study is conducted properly, the answer to this question should be "yes," since the exposure status of members of the cohort was determined at the beginning of the study before the outcomes occurred.

For retrospective cohort studies, the same principal applies. The difference is that, rather than identifying a cohort in the present and following them forward in time, the investigators go back in time (i.e., retrospectively) and select a cohort based on their exposure status in the past and then follow them forward to assess the outcomes that occurred in the exposed and nonexposed cohort members. Because in retrospective cohort studies the exposure and outcomes may have already occurred (it depends on how long they follow the cohort), it is important to make sure that the exposure preceded the outcome.

Sometimes cross-sectional studies are conducted (or cross-sectional analyses of cohort-study data), where the exposures and outcomes are measured during the same timeframe. As a result, cross-sectional analyses provide weaker evidence than regular cohort studies regarding a potential causal relationship between exposures and outcomes. For cross-sectional analyses, the answer to Question 6 should be "no."

Question 7. Sufficient timeframe to see an effect

Did the study allow enough time for a sufficient number of outcomes to occur or be observed, or enough time for an exposure to have a biological effect on an outcome? In the examples given above, if clinical depression has a biological effect on increasing risk for CVD, such an effect may take years. In the other example, if higher dietary sodium increases BP, a short timeframe may be sufficient to assess its association with BP, but a longer timeframe would be needed to examine its association with heart attacks.

The issue of timeframe is important to enable meaningful analysis of the relationships between exposures and outcomes to be conducted. This often requires at least several years, especially when looking at health outcomes, but it depends on the research question and outcomes being examined.

Cross-sectional analyses allow no time to see an effect, since the exposures and outcomes are assessed at the same time, so those would get a "no" response.

Question 8. Different levels of the exposure of interest

If the exposure can be defined as a range (examples: drug dosage, amount of physical activity, amount of sodium consumed), were multiple categories of that exposure assessed? (for example, for drugs: not on the medication, on a low dose, medium dose, high dose; for dietary sodium, higher than average U.S. consumption, lower than recommended consumption, between the two). Sometimes discrete categories of exposure are not used, but instead exposures are measured as continuous variables (for example, mg/day of dietary sodium or BP values).

In any case, studying different levels of exposure (where possible) enables investigators to assess trends or dose-response relationships between exposures and outcomes–e.g., the higher the exposure, the greater the rate of the health outcome. The presence of trends or dose-response relationships lends credibility to the hypothesis of causality between exposure and outcome.

For some exposures, however, this question may not be applicable (e.g., the exposure may be a dichotomous variable like living in a rural setting versus an urban setting, or vaccinated/not vaccinated with a one-time vaccine). If there are only two possible exposures (yes/no), then this question should be given an "NA," and it should not count negatively towards the quality rating.

Question 9. Exposure measures and assessment

Were the exposure measures defined in detail? Were the tools or methods used to measure exposure accurate and reliable–for example, have they been validated or are they objective? This issue is important as it influences confidence in the reported exposures. When exposures are measured with less accuracy or validity, it is

harder to see an association between exposure and outcome even if one exists. Also as important is whether the exposures were assessed in the same manner within groups and between groups; if not, bias may result.

For example, retrospective self-report of dietary salt intake is not as valid and reliable as prospectively using a standardized dietary log plus testing participants' urine for sodium content. Another example is measurement of BP, where there may be quite a difference between usual care, where clinicians measure BP however it is done in their practice setting (which can vary considerably), and use of trained BP assessors using standardized equipment (e.g., the same BP device which has been tested and calibrated) and a standardized protocol (e.g., patient is seated for 5 minutes with feet flat on the floor, BP is taken twice in each arm, and all four measurements are averaged). In each of these cases, the former would get a "no" and the latter a "yes."

Here is a final example that illustrates the point about why it is important to assess exposures consistently across all groups: If people with higher BP (exposed cohort) are seen by their providers more frequently than those without elevated BP (nonexposed group), it also increases the chances of detecting and documenting changes in health outcomes, including CVD-related events. Therefore, it may lead to the conclusion that higher BP leads to more CVD events. This may be true, but it could also be due to the fact that the subjects with higher BP were seen more often; thus, more CVD-related events were detected and documented simply because they had more encounters with the health care system. Thus, it could bias the results and lead to an erroneous conclusion.

Question 10. Repeated exposure assessment

Was the exposure for each person measured more than once during the course of the study period? Multiple measurements with the same result increase our confidence that the exposure status was correctly classified. Also, multiple measurements enable investigators to look at changes in exposure over time, for example, people who ate high dietary sodium throughout the followup period, compared to those who started out high then reduced their intake, compared to those who ate low sodium throughout. Once again, this may not be applicable in all cases. In many older studies, exposure was measured only at baseline. However, multiple exposure measurements do result in a stronger study design.

Question 11. Outcome measures

Were the outcomes defined in detail? Were the tools or methods for measuring outcomes accurate and reliable–for example, have they been validated or are they objective? This issue is important because it influences confidence in the validity of study results. Also important is whether the outcomes were assessed in the same manner within groups and between groups.

An example of an outcome measure that is objective, accurate, and reliable is death–the outcome measured with more accuracy than any other. But even with a measure as objective as death, there can be differences in the accuracy and reliability of how death was assessed by the investigators. Did they base it on an autopsy report, death certificate, death registry, or report from a family member? Another example is a study of whether dietary fat intake is related to blood cholesterol level (cholesterol level being the outcome), and the cholesterol level is measured from fasting blood samples that are all sent to the same laboratory. These examples would get a "yes." An example of a "no" would be self-report by subjects that they had a heart attack, or self-report of how much they weigh (if body weight is the outcome of interest).

Similar to the example in Question 9, results may be biased if one group (e.g., people with high BP) is seen more frequently than another group (people with normal BP) because more frequent encounters with the health care system increases the chances of outcomes being detected and documented.

Question 12. Blinding of outcome assessors

Blinding means that outcome assessors did not know whether the participant was exposed or unexposed. It is also sometimes called "masking." The objective is to look for evidence in the article that the person(s) assessing the outcome(s) for the study (for example, examining medical records to determine the outcomes that occurred in the exposed and comparison groups) is masked to the exposure status of the participant. Sometimes the person measuring the exposure is the same person conducting the outcome assessment. In this case, the outcome assessor would most likely not be blinded to exposure status because they also took measurements of exposures. If so, make a note of that in the comments section.

As you assess this criterion, think about whether it is likely that the person(s) doing the outcome assessment would know (or be able to figure out) the exposure status of the study participants. If the answer is no, then blinding is adequate. An example of adequate blinding of the outcome assessors is to create a separate committee, whose members were not involved in the care of the patient and had no information about the study participants' exposure status. The committee would then be provided with copies of participants' medical records, which had been stripped of any potential exposure information or personally identifiable information. The committee would then review the records for prespecified outcomes according to the study protocol. If blinding was not possible, which is sometimes the case, mark "NA" and explain the potential for bias.

Question 13. Followup rate

Higher overall followup rates are always better than lower followup rates, even though higher rates are expected in shorter studies, whereas lower overall followup rates are often seen in studies of longer duration. Usually, an acceptable overall followup rate is considered 80 percent or more of participants whose exposures were measured at baseline. However, this is just a general guideline. For example, a 6-month cohort study examining the relationship between dietary sodium intake and BP level may have over 90 percent followup, but a 20-year cohort study examining effects of sodium intake on stroke may have only a 65 percent followup rate.

Question 14. Statistical analyses

Were key potential confounding variables measured and adjusted for, such as by statistical adjustment for baseline differences? Logistic regression or other regression methods are often used to account for the influence of variables not of interest.

This is a key issue in cohort studies, because statistical analyses need to control for potential confounders, in contrast to an RCT, where the randomization process controls for potential confounders. All key factors that may be associated both with the exposure of interest and the outcome–that are not of interest to the research question–should be controlled for in the analyses.

For example, in a study of the relationship between cardiorespiratory fitness and CVD events (heart attacks and strokes), the study should control for age, BP, blood cholesterol, and body weight, because all of these factors are associated both with low fitness and with CVD events. Well-done cohort studies control for multiple potential confounders.

Some general guidance for determining the overall quality rating of observational cohort and cross-sectional studies

The questions on the form are designed to help you focus on the key concepts for evaluating the internal validity of a study. They are not intended to create a list that you simply tally up to arrive at a summary judgment of quality.

Internal validity for cohort studies is the extent to which the results reported in the study can truly be attributed to the exposure being evaluated and not to flaws in the design or conduct of the study–in other words, the ability of the study to draw associative conclusions about the effects of the exposures being studied on outcomes. Any such flaws can increase the risk of bias.

Critical appraisal involves considering the risk of potential for selection bias, information bias, measurement bias, or confounding (the mixture of exposures that one cannot tease out from each other). Examples of confounding include co-interventions, differences at baseline in patient characteristics, and other issues throughout the questions above. High risk of bias translates to a rating of poor quality. Low risk of bias translates to a rating of good quality. (Thus, the greater the risk of bias, the lower the quality rating of the study.)

In addition, the more attention in the study design to issues that can help determine whether there is a causal relationship between the exposure and outcome, the higher quality the study. These include exposures occurring prior to outcomes, evaluation of a dose-response gradient, accuracy of measurement of both exposure and outcome, sufficient timeframe to see an effect, and appropriate control for confounding–all concepts reflected in the tool.

Generally, when you evaluate a study, you will not see a "fatal flaw," but you will find some risk of bias. By focusing on the concepts underlying the questions in the quality assessment tool, you should ask yourself about the potential for bias in the study you are critically appraising. For any box where you check "no" you should ask, "What is the potential risk of bias resulting from this flaw in study design or execution?" That is, does this factor cause you to doubt the results that are reported in the study or doubt the ability of the study to accurately assess an association between exposure and outcome?

The best approach is to think about the questions in the tool and how each one tells you something about the potential for bias in a study. The more you familiarize yourself with the key concepts, the more comfortable you will be with critical appraisal. Examples of studies rated good, fair, and poor are useful, but each study must be assessed on its own based on the details that are reported and consideration of the concepts for minimizing bias.

Appendix B

Manuscript Submission Requirements for Clinical Psychology Review

DESCRIPTION . Clinical Psychology Review publishes substantive reviews of topics germane to clinical psychology. Papers cover diverse issues including: psychopathology, psychotherapy, behavior therapy, cognition and cognitive therapies, behavioral medicine, community mental health, assessment, and child development. Papers should be cutting edge and advance the science and/or practice of clinical psychology. Reviews on other topics, such as psychophysiology, learning therapy, experimental psychopathology, and social psychology often appear if they have a clear relationship to research or practice in clinical psychology. Integrative literature reviews and summary reports of innovative ongoing clinical research programs are also sometimes published. Reports on individual research studies and theoretical treatises or clinical guides without an empirical base are not appropriate.

PREPARATION

Manuscripts should be prepared according to the guidelines set forth in the Publication Manual of the American Psychological Association (6th ed., 2009). Of note, section headings should not be numbered.

Title. Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible. Note: The title page should be the first page of the manuscript document indicating the author's names and affiliations and the corresponding author's complete contact information.

Abstract. A concise and factual abstract is required (not exceeding 200 words). This should be typed on a separate page following the title page. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separate from the article, so it must be able to stand alone. References should therefore be avoided, but if essential, they must be cited in full, without reference to the reference list.

Keywords. Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Reporting guidelines. Authors are referred to the PRISMA Guidelines (http://www.prisma-statement.org/statement.htm) for guidance in conducting reviews and preparing manuscripts. Adherence to the Guidelines is not required, but is recommended to enhance quality of submissions and impact of published papers on the field.

Tables. Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results

described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

SCHOOL OF PSYCHOLOGY

DOCTORATE IN CLINICAL PSYCHOLOGY

EMPIRICAL PAPER

Conditional Goal Setting and Flexible Goal Adjustment in Depression

Trainee Name:	**Eimear Corrigan**
Primary Research Supervisor:	**Dr. Nick Moberly** Senior Lecturer, School of Psychology, University of Exeter
Secondary Research Supervisor:	**Dr Jenny Limond** Consultant Clinical Neuropsychologist/ Senior Lecturer and Research Director for DClinPsy, University of Exeter
Target Journal:	Motivation and Emotion
Word Count:	7909 words (excluding abstract, table of contents, list of figures, references, footnotes, appendices)

Submitted in partial fulfilment of requirements for the Doctorate Degree in Clinical Psychology, University of Exeter

Abstract

Problematic goal adjustment in response to unattainable goals has been implicated in depression. This study aimed to investigate flexible goal adjustment and conditional goal setting in depressed individuals (*n* = 12) compared with a never-depressed group (*n* = 32). Participants were recruited through primary care settings and advertisements placed in community locations and online. Following self-referral, participants completed a telephone eligibility assessment and if eligible, completed self-report measures relating to conditional goal setting, goal expectancies and how they adjusted their goals. Depressed individuals were more pessimistic about goal attainment, exerted less effort towards personal goals and reported being less likely to reengage in alternative goals relative to never-depressed individuals. Depressed individuals were more likely to view the attainment of goals as necessary for a sense of happiness. The groups did not differ with respect to the number of goals generated, rumination and tendencies to disengage from unattainable goals. These findings suggest that goals and motivations are relevant to understanding depression, highlighting potential targets for intervention.

Keywords: Flexible goal adjustment; Depression; Motivation; Conditional Goal Setting.

Introduction

There has been recent interest in understanding depression from a motivational perspective, expanding on previous research that has mainly focused on cognition and affect (Dickson & MacLeod, 2004). This interest is due to the clinical presentation of depression reflecting difficulties in motivational systems such as impairment in social and occupational functioning and recognising the link between low motivation and anhedonia (Der-Avakian & Markou, 2012; Hopko & Mullane, 2008; Hopko, Armento, Cantu, Chambers, & Lejuez, 2003). Specifically, goal-directed behaviour appears to be impaired in depression and therefore relevant to improving wellbeing, purpose and meaning in life (Carver, 2004; Klinger, 1977; Sheldon, Kasser, Smith, & Share, 2002). Notably, goals can be understood as internal representations of a hoped-for future state (Austin & Vancouver, 1996). In depression, however, low expectations of goal success, perceived low controllability and persistent rumination may explain difficulties in goal striving and goal attainment (Carver & Scheier, 1990; Dickson, Moberly, & Kinderman, 2011; Johnson, Carver, & Fulford, 2010).

Gray (1982) presented a motivational theory, identifying two systems related to personality. These systems are known as the Behavioural Activation System (BAS) and the Behavioural Inhibition System (BIS) that have since been linked to mental health. The BAS system activates behaviour in response to reward while the BIS system was thought to inhibit behaviour in response to threat, punishment or aversive outcomes. A more recent revision of Gray's theory states that the Fight, Flight, Freeze System activates behaviour in response to immediate threats whereas the BIS responds to goal conflict (Gray & McNaughton, 2000). Fowles (1994) extended this theory, suggesting that

depression was characterised by an overactive BIS system and an underactive BAS system. This hypothesis has been supported by research, with depressed individuals demonstrating lower BAS and higher BIS compared to controls on self-report measures (Kasch, Rottenberg, Arnow, & Gotlib, 2002; Pinto-Meza et al., 2006), although findings are mixed (e.g., Johnson, Turner, & Iwata, 2003). The most consistent findings relate to the BAS. Lower activation of the BAS has been associated with an early onset of depression (Shankman, Klein, Tenke, & Bruder, 2007) and poorer therapeutic outcomes at six and eight months follow-up (Kasch et al., 2002; McFarland, Shankman, Tenke, Bruder, & Klein, 2006;).

More recent research has applied this framework to understanding personal goals in depression. Approach goals have been described as strivings towards a desired outcome whereas avoidance goals are strivings away from aversive outcomes (Dickson & MacLeod, 2004a, 2004b; Elliot & Thrash, 2002). Fowles' (1994) ideas suggest that depression is associated with reduced salience of approach goals and increased salience of avoidance goals. Accruing evidence suggests that psychological benefits may be derived from approach goals and costs associated with avoidance goals. Goals framed in avoidant terms have been linked to depression (Coats, Janoff-Bulman, & Alpert, 1996), lower well-being (Elliot, Sheldon, & Church, 1997) and negative affect (Roskes, Elliot, & De Dreu, 2014).

Studies have found that adolescents with increased depression symptoms report fewer approach goals compared to those less symptomatic (Dickson & MacLeod, 2004a, 2004b), with similar findings observed in another study with dysphoric adolescents (Dickson & MacLeod, 2006). In the latter study, dysphoric adolescents generated fewer approach goals and more

avoidance goals relative to a control group although the findings across these studies are inconsistent for number of avoidance goals. The findings in relation to approach goals have not been universally corroborated either, particularly in clinical populations (Dickson et al., 2011; Vergara & Roberts, 2011). Sheratt and MacLeod (2013) tried to address these discrepant results by assessing underlying motivation for goal pursuit. Participants were asked to list the number of approach and avoidance goals as well as the reasons for pursuing them, which were then coded for approach versus avoidance orientation. They found that depressed and non-depressed people did not differ in the number or type of goals generated (approach vs. avoidance goal) but did differ in the underlying motivation, demonstrating less approach and more avoidance motivation for approach goals only. For example, an approach goal (e.g. "*to attend another course for work*") could be driven by avoidance motivation (e.g. "*to avoid becoming de-skilled*"), insinuating that approach goals may not be a 'pure' representation of approach motivation in depressed individuals.

Flexible Goal Adjustment

The pursuit of goals has been considered a key component of the wellbeing and health of an individual (Emmons, 2003; Klug & Maier, 2014). However, goal attainment is not always achievable for various reasons. Personal resources (e.g., lack of time) and/or a life event (e.g., injury) may limit opportunities to pursue a goal (e.g., running a marathon). In these circumstances, it is optimal to disengage from unattainable goals and reengage with alternative goals (Wrosch, Scheier, Carver, & Schulz, 2003), thereby negating the negative consequences associated with goal failure such as rumination and negative affect (Carver & Scheier, 1998; Martin & Tesser, 1996). Research supports this suggestion, linking goal adjustment to greater wellbeing

in students (Wrosch, Scheier, Miller, Schulz, & Carver, 2003) and lower depression scores in those with fertility problems (Kraaij, Garnefski, Schroevers, Weijmer, & Helmerhorst, 2010), acquired hearing loss (Garnefski & Kraaij, 2012) and peripheral arterial disease (Garnefski, Grol, Kraaij, & Hamming, 2008).

Research pertinent to depression and goal adjustment is limited and equivocal. Whilst some suggest that a failure to disengage from important goals leads to depression (e.g., Carver & Scheier, 1990; Pyszczynski & Greenberg, 1987), others suggest that depression prompts the disengagement process (Klinger, 1977; Wrosch & Miller, 2009). Dickson, Moberly, O'Dea, and Field (2016) examined goal dysregulation in clinical depression to elucidate this relationship. Participants completed measures assessing goals, goal expectancies, goal adjustment and depressive symptoms. Results suggested that depressed individuals reported fewer approach goals and rated the attainment of approach goals as less likely compared to a community comparison group. Unexpectedly, depressed individuals reported greater ease at disengagement from unattainable goals and (as expected) more difficulty reengaging with new goals. The findings related to disengagement were counter to prediction, potentially highlighting early disengagement based on pessimistic appraisals of goal attainment, although these was based on self-reports and not actual goal disengagement. Somewhat consistent with this finding, O'Connor, Fraser, Whyte, MacHale, and Masterton (2009) found that participants with low reengagement and high disengagement reported higher suicidal ideation compared to those endorsing high reengagement and high disengagement. Furthermore, low reengagement was associated with self-harm two years following a suicide attempt (O'Connor, O'Carrol, Ryan, &

Smyth, 2012). These findings suggest that patterns of low reengagement coupled with high disengagement or low reengagement alone can result in negative outcomes, with this further equated to the concept of complete disengagement from goals and life (Carver & Scheier, 1998).

The notion of painful engagement (MacLeod & Conway, 2007), portrays individuals as motivated by goals but viewing them as less likely to be attained despite their importance and a pattern of behavioural disengagement but continued cognitive engagement (i.e., rumination). Hadley and Conway (2007) found that depressed individuals generated goals that they considered necessary for happiness yet deemed goal attainment as unlikely. This pattern of painful engagement was also echoed in research relating to self-harm (Coughlan, Tatu, & MacLeod, 2016; Danchin, MacLeod, & Tatu, 2010).

The concept of goal linking may offer useful insights into these studies. Goals can be organised hierarchically, with more abstract and higher order goals (e.g., be a good leader) at the top of the hierarchy while more concrete goals (e.g., attend a leadership course) are arranged at the bottom (Carver & Scheier, 1998). Generally, the achievement of higher order goals is dependent on obtaining lower order goals. The goals pursued by certain individuals may represent important lower order goals that they believe are linked to higher order goals considered to be closely related to the self. Goal linkers assert that certain lower order goals are necessary for the attainment of a higher order goal, when in reality there is likely to be many routes to higher order goals.

Related to goal linking, a factor that may help explain why people do not flexibly adjust their goals is the development of conditionally set goals. It is suggested that certain individuals (i.e., conditional goal setters) make their happiness, fulfilment and self-worth conditional on the achievement of specific

goals, with this increasing the importance and value associated with goal attainment and goal pursuit (Street, 2001; Street, 1999). In contrast, goal linking does not specify higher order goals and as such, conditional goal setting (CGS) and goal linking are overlapping but not identical constructs. Many people value happiness so it can sit quite highly in people's goal hierarchies (Myers, 2000). According to Street (2002), the increased vulnerability to depression arises from individuals believing that 1) happiness and wellbeing are achievable higher order goals and 2) that happiness is contingent on the attainment of specific lower order goals. In support of this, high levels of CGS have been linked to depression in students (Dickson, Johnson, Huntley, Peckham, & Taylor, 2017) and have been observed in recent self-harmers (Danchin, MacLeod, & Tatu, 2010).

According to Pyszczynski and Greenberg (1987), goal disengagement is unlikely when it represents something of importance to the person. Similarly, McIntosh (1996) postulated that goals that the person believes are linked to personal happiness and wellbeing may increase people’s vulnerability to rumination and depression. Rumination is generally considered to involve recurrent thoughts around a particular theme (Martin & Tesser, 1996). It is thought that rumination will most often occur when people fail to make sufficient progress towards important goals. Rumination is likely to persist if the goal is of significant importance to the individual. In essence, rumination keeps goal related information accessible which in turn can facilitate a person resuming progress or action towards the goal. However, this could mean that cognitive disengagement is difficult for unattainable yet important goals while perceived unattainability might lead to little behavioural effort. Partially supporting this, individuals who linked their happiness to goals were found to ruminate more

about a current goal compared to non-linkers (Martin & McIntosh, 1992). Street (1999) found that goal linkers spent more time ruminating and secondly, that rumination was associated with higher levels of depression. It has been further argued that rumination can become dysfunctional if a discrepancy between an actual and desired for state is not reduced or the goal relinquished (Carver & Scheier, 1981; Strauman, 2002; Watkins, 2008). Individuals with depression may be more likely to engage in repetitive thinking or remain cognitively engaged with goals that are conditionally set. However, the association between goal linking and behavioural disengagement is less well understood.

Expectancies for goal attainment are also considered to influence goal pursuit, with expectations of success or failure likely to promote renewed or reduced effort, respectively (Rasmussen, Wrosch, Scheier, & Carver, 2006). When expectancies are sufficiently low, the person may disengage from goals in order to prioritise effort on other goals (Carver & Scheier, 1998). Low expectations for personal goal attainment have appeared to coincide with higher disengagement from unattainable goals and lower reengagement with alternative goals in a depressed population (Dickson et al., 2016). In a related study, the goal pursuits of an undergraduate sample who were oversampled for elevated depression symptoms were monitored at baseline, two weeks later and at a 2-month follow-up (Moss & Cheavens, 2019). At baseline, elevated depression symptoms and low confidence in goal attainment predicted less early goal progress, with this leading to a further decrease in confidence and goal commitment for goals yet to be attained. Reduced goal progress and decreases in commitment and confidence were related to further decreases in goal pursuit at 2-month follow-up. In contrast, another study found that individuals with depression who entered therapy with more optimistic

expectations of change reported greater progress and reengagement with meaningful goals (Eddington, Burgin, & Majestic, 2016). Therefore, an individual's outlook may affect their behavioural response or the extent of effort they exhibit towards their goals. A negative outlook regarding the future (i.e., hopelessness) has also been observed in conditional goal setters (Hadley & MacLeod, 2010) although the link to goal adjustment has not been investigated yet. While behavioural disengagement may be observed in people with low expectations of goal success, it is possible that some individuals will remain cognitively committed to the goal and therefore ruminate about it, especially if they conditionally set goals. Based on this, it is thought that failing to reach conditionally set goals could trigger depression, given its implication for an overall sense of self-worth (Johnson et al., 2010).

Aims

This study aimed to extend the research by Dickson et al. (2016) by evaluating behavioural and cognitive disengagement in depression and its relationship with conditionally set goals. To my knowledge, no research has been carried out that addresses the specific questions of whether individuals with depression differ from never-depressed individuals in respect of these goal related processes. It also remains unclear why an individual will continue to pursue a goal that is perceived to be unlikely in attainment. However, CGS offers a potential explanation of why individuals with depression may have difficulty disengaging from an unattainable goal and reengaging in alternative ones, particularly when considering the distinction between behavioural effort and cognitive disengagement (ie., rumination).

Hypotheses

1. Depressed individuals will generate fewer approach goals and more avoidance goals compared to never-depressed individuals.
2. Depressed people will be more pessimistic about goal attainment than never-depressed people, irrespective of goal type.
3. When general tendencies for personal goals are explored, it is expected that there will be a dissociation between cognitive and behavioural disengagement. Depressed people will endorse higher rumination but more behavioural disengagement (i.e., less effort) for the approach and avoidance goals that they are currently pursing compared to never-depressed individuals.
4. Depressed people will show higher trait disengagement tendencies when faced with unattainable goals and lower re-engagement with other goals compared to never-depressed individuals.
5. Depressed people will show a greater propensity to report that their happiness is contingent on goal attainment than never-depressed individuals, irrespective of goal type.
6. Conditional goal setting will be positively associated with rumination (i.e., difficulty with cognitive disengagement) and negatively related to behavioural effort for personal goals in both groups.

Method

Design

This research employed a case control design, with a between-subject factor of group (depressed vs. never-depressed) and a within-subject factor of goal type (approach and avoidance). The outcome variables include trait tendency for goal disengagement and goal reengagement in response to unattainable goals, behavioural effort, goal expectancies, rumination, CGS, number of approach and avoidance goals and depression scores.

Participants

This study aimed to recruit individuals with current depression along with a comparison group consisting of never-depressed individuals. Individuals with depression were recruited via primary care services including Steps 2 Wellbeing services in Dorset and the Depression and Anxiety Services in Devon. These recruitment sources were supplemented with advertisements and visits to self-help groups. Individuals with co-morbid diagnoses including substance related difficulties, bipolar, psychotic disorders or a brain injury were not eligible for participation across both groups. The never-depressed group was recruited from the community through leaflets and posters in social and leisure centres, libraries, train/bus stations, supermarkets and cafes. Advertisements in the community, on social media (e.g., community notice boards) and at the University of Exeter were used to further maximise recruitment for both groups. The initial aim of this research was to match groups on age and gender but this proved unfeasible due to recruitment issues and insufficient data.

Depression group. Twelve people were recruited to the depression group (M_{age} = 28.0 years, *SD* = 10.6, age range = 19-51), as assessed by

having a score ≥10 on the Patient Health Questionnaire-9 (PHQ-9; Kroenke, Spitzer, & Williams, 2001). Eligibility for this group required individuals to be aged 18 or over and to be currently experiencing depression. The depression group comprised of two males (M_{age} = 31.5 years, SD = 17.7, age range = 19-44) and 10 females (M_{age} = 27.3 years, *SD* = 10.0, age range = 19-51). The Structured Clinical Interview for DSM-IV-TR (SCID-IV-TR; First, Gibbon, Spitzer, Williams, & Benjamin, 2002) was used to assess major depressive disorder (MDD) but was subsequently abandoned as an eligibility criterion due to recruitment challenges. However, the SCID was administered to all participants, with nine people meeting criteria for both MDD and PHQ-9 scores and three individuals scoring positively on the PHQ-9 only. The rationale for this decision will be discussed later. In terms of PHQ-9 criteria, seven individuals met criteria for moderate depression, three individuals were considered to be experiencing moderately severe depression and two had severe depression. An additional two females were considered eligible but did not complete the research.

Never-depressed group. In total, 32 individuals were recruited to the group representing the never-depressed population (M_{age} = 26.4 years, *SD* = 11.7, age range = 17-69). Of these, 22 were female and 10 were male. The eligibility criteria for the comparison group required individuals to be 18 years or over and never have met criteria for depression (assessed using the SCID) or another psychological disorder or have sought help for a mental health problem. They were also required to score < 10 on the PHQ-9 (Kroenke et al., 2001). Figure 1 illustrates the recruitment process for participants.

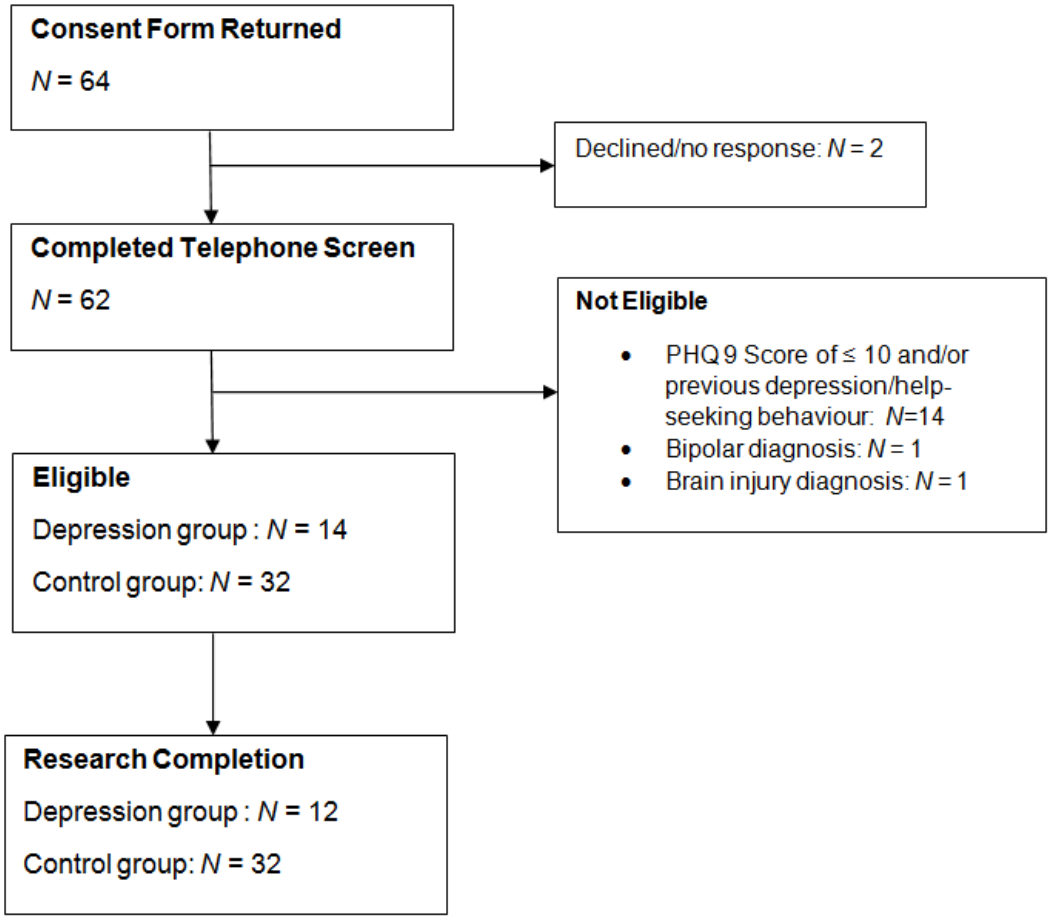

Figure 1. Flowchart of the recruitment process.

Measures

Demographics. Demographic data consisting of age, gender, ethnicity, educational attainment and employment were collected.

Goal task. Participants were asked to generate approach and avoidance goals using an amended method originally developed by Dickson and MacLeod (2004a). Individuals were asked to list current goals that they are working towards with goals described as "*things that you would like to attain in the future.*" Prompts were provided to assist with generating approach and avoidance goals, using wording: "*it's important for me to*…." and "*it's important for me to avoid*…" Examples were also provided and there was no time limit for this task. Once individuals generated as many goals as they wanted for each

condition (approach and avoidance), they were asked to choose three of their most important goals from each condition. A minimum of two goals per condition were required for overall rating and data analysis, with no one providing fewer than this number. Goal condition was randomly counterbalanced to minimise order effects.

Once the questionnaires were returned, each goal was assessed in terms of its consistency with key features of either an approach or avoidance goal. Any goal considered ambiguous (e.g., writing avoidance goals in the approach goals condition) was reviewed with the primary supervisor and following discussion, an agreed strategy was applied to this goal and any goal rated in a similar manner. Inter-rater agreement for the approach/avoidance orientation was 85%.

Goal expectancies (Dickson et al., 2016). Participants were asked to rate the likelihood of success for all nominated goals using a Likert scale ranging from 1 (*not likely*) to 7 (*extremely likely*). This item is as follows: "How likely is it that you will achieve this goal?" The mean score was computed for the likelihood ratings of the individual's nominated goals for the approach and avoidance conditions.

Behavioural effort. Participants were asked about their effort towards all nominated goals as a way of capturing behavioural engagement. This was assessed by asking respondents, “How much action (i.e., specific behaviours) have you taken to make progress on this goal over the last week” using a scale ranging from 1 (*none at all*) to 7 (*extremely high level of action*). This measure was designed for this study and aims to have good face validity. An overall mean score was computed for each goal type.

Goal rumination scale (Schultheiss, Jones, Davis, & Kley, 2008). Repetitive thinking about goals was assessed using seven items developed by Schultheiss, Jones, Davis, and Klay (2008). An example of an item is “I find it hard to shut off thoughts about this goal.” Slight changes were made to the wording of items to improve readability. For instance, the following item "I go round and round in my mind about this goal" was changed to "This goal goes round and round in my mind." Participants were then asked to indicate the rating that best describes each goal using a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*), with no time frame stated. Mean scores were obtained for ratings of rumination for each goal type. A reliability score was generated for the rumination items by selecting the first approach and avoidance goal for each individual. Cronbach's alpha was .92 and .90 for the rumination items for the approach goal and avoidance goal, respectively.

Conditional goal setting (CGS; Street, 1999). The CGS scale uses three aspects of personal well-being (happiness, fulfilment and self-worth) to form three CGS questions. Participants were asked to rate items such as, "To what extent can you still be happy if you do not achieve your goal?" using a 7-point Likert scale (from 1 “*Not at all*” to 7 “*Extremely"*). The wording in three CGS items was slightly altered to cover aspects of CGS such as a) happiness, b) fulfilment, and c) self-worth. Ratings were completed for all nominated goals in each goal type. All items were reverse-coded so that higher scores represented greater levels of CGS. An overall CGS score was computed for each goal type by summing the CGS items from the three aspects of well-being. A reliability score was generated for the CGS items for the first approach and avoidance goal for each individual. Cronbach's alpha was .90 and .88 for the rumination items for the approach and avoidance goals, respectively.

Goal adjustment scale—personal goals adaptation (GAS; Wrosch et al., 2003). The GAS is a 10-item questionnaire, four of which measure goal disengagement and six measure reengagement with new goals, in response to unattainable goals. The goal disengagement subscale measures an individual's typical responses to unattainable goals by considering their commitment and behavioural effort in these situations. Goal reengagement captures a person's ability to identify, commit to, and pursue other goals. Examples of items include “It’s easy for me to reduce my effort towards the goal” and “I seek other meaningful goals.” Items are rated using a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) and higher scores are indicative of more disengagement and reengagement tendencies. Participants were instructed to rate this scale while considering the personal goals they listed in the Goal Task Questionnaire. Participants were asked what they would they do if their personal goals were unattainable. The GAS has demonstrated good validity (e.g., Wrosch et al., 2003). In this study, Cronbach's alpha was .85 and .86 for the adapted goal disengagement and goal reengagement scale, respectively.

Semi-Structured Clinical Interview for DSM-IV-TR (SCID-IV-TR) – Research Edition (First et al., 2002). The SCID-IV-TR was initially used to confirm the presence or absence of MDD. However, inconsistencies between the SCID- and PHQ-9 ratings were identified, with three participants in the depression group scoring ≥ 10 on the PHQ-9 but not meeting MDD criteria as assessed by the SCID. This, combined with recruitment difficulties resulted in the decision to base inclusion criteria for depression on the PHQ-9 only (see below).

Depressive symptoms (PHQ-9; Kroenke et al., 2001). The PHQ-9 is a nine item questionnaire that assesses depression symptomatology,

demonstrating good reliability and validity, with good sensitivity and specificity (Levis, Benedetti, & Thombs, 2019). Participants were asked how they were feeling in the previous two weeks, with scores ranging from 0-27. Cut off scores have been established for the PHQ-9, with scores of 5, 10, 15, and 20 reflecting mild, moderate, moderately severe and severe depression, respectively. A score of ≥ 10 on the PHQ-9 was required for depressed individuals and a score of < 10 for the never-depressed sample. The inclusion criteria for depression was based on the PHQ-9 as it is used to inform treatment decisions in UK primary care (Kendrick et al., 2009) and has been used as the sole measure of depression in a clinical trial (Gilbody et al., 2015). In this study, Cronbach's alpha was .91.

Ethical Approval

This research received ethical approval from the National Health Service Research Ethics Committee and through the University of Exeter Ethics Committee. Approval was also sought from the Research and Development departments in Dorset HealthCare University NHS Foundation Trust and Devon Partnership NHS Trust (Appendix A-E), with this process consisting of local research governance checks. Prior to this, consultation was sought from the Lived Experience Group (LEG) within the University of Exeter, who provided feedback on questionnaires along with the paperwork consisting of the consent form, information sheets and advertisements. The questionnaires were piloted with a LEG member, three other people, and together, their comments were incorporated into the finalised versions of research materials. Once this process was completed and all approvals obtained, recruitment commenced.

Procedure

Recruitment of participants occurred through advertisement and leaflets given to relevant NHS organisations and posted online and in community locations (Appendix F-H). The research was further promoted by visiting teams in primary care services in Dorset and Devon, with clinicians asked to notify participants of the opportunity to participate by handing out leaflets to clients. For some teams, the information was given directly to team leaders, who disseminated the information to their team. The researcher also handed out leaflets and explained the research to people in the waiting rooms of the Depression and Anxiety Service Exeter and the Bournemouth's Steps 2 Wellbeing Service. Once an individual received a leaflet, they had to self-refer to the research by contacting the researcher by email or phone. Individuals who expressed an interest in participation were sent a consent form and information sheet (Appendix I-J) with a prepaid envelope by post or by email. Once the informed consent was returned, a telephone screen was arranged, the purpose of which was to assess the inclusion criteria over the telephone. Before the telephone screen was carried out, individuals were asked to provide their GP details and their current location, for risk safety purposes. The telephone screen (Appendix K) involved completion of the PHQ-9, screening questions and the SCID-IV-TR. The limits of confidentiality were explained to all individuals, highlighting that people were free to withdraw at any time. If agreeable, eligible participants were sent the Goals Task questionnaire, demographic sheet, and the Goal Adjustment Scale (Appendix L) by email or, alternatively, by post with a prepaid envelope for return postage. Questionnaire packs not returned within three weeks were followed up with a reminder. All individuals who completed

the research received a £5 Amazon voucher for the time taken to complete the questionnaires.

Data Analysis Strategy

Descriptive statistics were used to examine outliers and the distribution of scores. Specifically, normality was assessed using Shapiro-Wilk test alongside the normal Q-Q plots, with skewness and kurtosis values compared against their standard error. These data screening strategies were adopted due to the small sample size and the analysis conducted separately for the depression and never-depressed groups. The following variables were not normally distributed for either group: PHQ-9 scores, rumination for approach goals, number of approach and avoidance goals, and goal expectancies for both goal types. Transformations did not improve the distributions for both groups for any variable. Based on this, non-parametric tests were conducted for analyses involving non-normally distributed variables.

Outliers were identified by observing Z scores with an absolute score > 3.29 and boxplots. Based on this, 6 individuals were considered to be an outlier on one variable. One individual was an outlier on two variables. These scores were checked for accuracy in terms of data entry. A review of the mean and 5% trimmed mean which were very similar suggested that the outliers had little influence on the scores. Based on these observations plus the small sample size, a decision was made to retain these data.

A 2 (group: depressed vs. never-depressed) x 2 (goal type: approach vs. avoidance) mixed ANOVA was used to analyse CGS and behavioural effort. A Mann-Whitney U test was conducted to examine group differences on the number of goals generated, goal expectancies and rumination for both goal types. An independent samples *t*-test was used to assess group differences in

goal adjustment for unattainable goals. A Spearman's Rank Order correlation was used to assess the relationship between flexible goal adjustment variables and CGS for each group.

Power Analysis

G*Power 3.1 was used to calculate the appropriate sample size to address the various hypotheses for this study, with the calculation based on the findings of Dickson et al. (2016). They reported between-group effect sizes ranging from small for number of avoidance goals to large for goal expectancies and goal adjustment. Based on this, it was thought reasonable to power the study to detect large effect sizes. To test hypotheses testing group differences with 80% power, assuming a large effect size of .8 and alpha of .05 requires 26 participants per group. To detect a large correlation of r = .5 with 80% power and an alpha level of .05 requires 23 participants per group. It is accepted that power may be inadequate for small to medium effects with the current numbers.

Results

Demographic Characteristics

The depression and never-depressed groups did not differ significantly in age, U = 148.00, p =.31, r = .16 or the proportion of males and females, $\chi^2(1, N = 44) = .35$, p = .46. Demographic characteristics for both groups are presented in Table 1.

Table 1

Frequency of Demographic Characteristics for the Depression and Never-Depressed Comparison Groups

	Depression group *n* =12	Never-depressed comparison group *n* = 32
Gender		
Male	2	10
Female	10	22
Education		
A levels	4	9
Certificate	1	2
Diploma	1	4
Degree	4	8
Masters	1	5
Other	1	4
Employment		
Employed full-time	6	11
Employed part-time	-	5
Student	5	15
Other	1	1
Ethnicity		
White	8	20
Black	-	1
Asian	4	7
Mixed	-	4

Approach and Avoidance Goals

Table 2 provides descriptive statistics for both groups. The results indicated no significant differences in the number of approach goals, U = 162.00, p =.44, r = .12, or the number of avoidance goals generated between the depression and never-depressed groups, U = 142.50, p = .20, r = .20.

Table 2

Descriptive Statistics for the Depression and the Never-Depressed Groups

	Depression (*n* =12)			Never-depressed (*n* = 32)		
	M (*SD*)	*Mdn*	Interquartile Range	*M* (*SD*)	*Mdn*	Interquartile Range
PHQ-9	14.6 (4.6)	13.0	11.3-16.8	2.2 (2.0)	2.0	1-4
No. Approach goals	7.2 (2.2)	7.5	5.0-9.0	6.7 (2.2)	6.0	5.0-7.8
No. Avoidance Goals	5.6 (1.4)	5.5	5.0-6.8	4.9 (1.9)	5.0	3.3-6.0
Goal Expectancy APP	4.4 (0.7)	4.7	3.7-5.0	5.3 (1.0)	5.3	4.8-6.0
Goal Expectancy AVO	3.8 (1.2)	4.0	3.4-4.9	4.8 (1.1)	5.0	4.1-5.6
Goal Disengagement	12.4 (4.2)	13.5	8-16.5	12.1 (3.5)	12.0	9-15
Goal Reengagement	19.7 (5.4)	19.5	16.3-24.5	23.9 (2.8)	24	22-26
Goal Effort APP	3.7 (1.0)	3.7	3.1-4.7	4.9 (1.3)	5.2	4.1-5.9
Goal Effort AVO	4.2 (1.6)	4.3	3.3-5.5	4.5 (1.3)	4.7	3.7-5.3
Goal Rumination APP	4.3 (1.2)	3.9	3.6-4.8	3.9 (1.5)	3.8	3.0-5.1
Goal Rumination AVO	4.0 (1.5)	3.8	3.1-5.1	3.3 (1.1)	3.5	2.6-4.2
CGS APP	16.1 (3.1)	16.8	13.5-18.5	11.7 (4.6)	12.3	6.9-15.1
CGS AVO	16.0 (3.1)	15.5	13.7-18.9	10.3 (3.8)	10.3	7.8-13.0

Note. APP = for approach goals, AVO = for avoidance goals.

Goal Expectancy

As expected, individuals within the depression group viewed attainment of approach goals as significantly less likely than people within the never-depressed group, $U = 71.50$, $p = .001$, $r = .48$. Similarly, individuals with depression were significantly less optimistic in their views of goal success for avoidance goals compared to individuals within the never-depressed group, $U = 102.00$, $p = .02$, $r = .35$.

Rumination and Behavioural Effort

The groups did not differ in their tendency to ruminate about either their nominated approach, $U = 165.00$, $p = .49$, $r = .10$, or avoidance goals, $U = 154.00$, $p = .33$, $r = .15$.

A mixed ANOVA was conducted to examine the levels of behavioural effort taken to advance a goal, with group as a between-subjects factor (depression and control) and goal type (approach and avoidance) as the within-subjects factor. Results revealed no significant main effect for goal type, $F(1, 42) = .04$, $p = .85$, $\eta^2 = .001$, or interaction between goal type and group, $F(1, 42) = 3.54$, $p = .07$, $\eta^2 = .08$. However, a significant main effect was found for group, $F(1, 42) = 5.04$, $p = .03$, $\eta^2 = .11$, with individuals in the never-depressed group exhibiting more effort compared to the depression group across goal types.

Goal Disengagement and Goal Reengagement

There was no significant difference between groups in terms of their tendency to disengage from unattainable goals, $t(42) = -.26$, $p = .80$, $d = .08$. However, on average, individuals in the never-depressed group were more likely to identify and reengage in alternative goals compared to depressed individuals, $t(13.27) = 2.59$, $p = .02$, $d = .97$.

Conditional Goal Setting

A mixed ANOVA was conducted on CGS ratings, with goal type as the within-subjects factor and group as the between-subjects factor. Results revealed no significant main effects for goal type, $F(1, 42) = 9.71$, $p = .23$, $\eta^2 = .04$, or the interaction effect between goal type and group, $F(1, 42) = 7.03$, $p = .30$, $\eta^2 = .03$. However, there was a main effect for group, $F(1, 42) = 17.93$, $p <$

.001, $\eta^2 = .30$. Individuals within the depression group had higher CGS scores compared to the never-depressed group.

Conditional Goal Setting and Flexible Goal Adjustment

The relationship between CGS and goal adjustment variables was explored using Spearman's Rank Order Correlations, computed separately for both groups. The results of this analysis are illustrated in Table 3. For the never-depressed group, CGS for approach goals was positively related to rumination for both goal types. CGS for avoidance goals was also positively related to rumination for both goal types in addition to goal effort for avoidance goals. Goal disengagement was negatively related to goal effort for both goal types.

In the depression group, CGS for avoidance goals was positively related to rumination for approach goals. However, power was low for the depressed group due to the small sample size.

Table 3

Spearman's Rank Order Correlations for CGS and Flexible Goal Adjustment Variables

	1. CGS App	**2. CGS Avo**	**3. GD**	**4. GR**	**5. RUM APP**	**6. RUM AVO**	**7. Goal effort APP**	**8. Goal effort AVO**
1	-	.75**	.26	-.48	.42	.05	-.15	-.23
2	.51**	-	-.12	-.39	.72**	.24	-.40	-.29
3	-.20	-.11	-	-.27	-.39	-.09	.42	.08
4	.17	-.21	.12	-	.05	.31	.17	.31
5	.73**	.37*	-.13	.17	-	.33	-.19	.55
6	.47**	.37*	.18	.25	.65**	-	.04	.55
7	.02	-.00	-.40*	-.25	.01	-.26	-	.31
8	.19	.39*	-.36*	.13	.03	.15	.30	-

Note. Correlations for the depression group (N = 12) are above the diagonal. Correlations for the never-depressed group (N = 32) are below the diagonal; *p < .05; **p < .01; APP = for approach goals; AVO = for avoidance goals; GD = goal disengagement; GR = Goal reengagement; RUM = Rumination

Discussion

This study examined whether individuals with depression differed from never-depressed individuals on measures of flexible goal adjustment and CGS. The relationship between goal adjustment variables and CGS was also explored for each group separately. This research provided partial support for some of the hypotheses. As expected, individuals with depression viewed the attainment of their approach and avoidance goals as less likely compared to those who were never-depressed. Individuals with depression also reported being less likely to reengage in new goals in response to unattainable goals and exerted lower levels of effortful behaviour towards their personal goals compared with never-depressed people. Moreover, individuals with depression scored higher on CGS, meaning that they more strongly viewed the attainment of their goals as necessary for a sense of happiness, self-worth and fulfilment in their lives. The hypotheses that the groups would differ in their endorsement of rumination, goal disengagement in response to unattainable goals and number of goals were not supported.

The results did not support the first hypothesis which stated that individuals with depression would differ in the number of approach and avoidance goals generated compared to never-depressed individuals. Theoretical accounts suggest that depression is characterised by disrupted BAS and increased BIS activity (Gray, 1982; Fowles, 1994), which is counter to this finding. Furthermore, this finding was not consistent with those of Dickson et al.'s (2016) research, which found that individuals with depression identified fewer approach goals than never-depressed individuals. Additionally, there were no group differences for avoidance goals. However, research relating to the number of goals generated between depressed and non-depressed

individuals has yielded mixed results, particularly for avoidance goals (Sheratt & MacLeod, 2013). The number of goals generated may not illustrate the level of goal progress towards a desired state or the underlying motivation, which may be more indicative of a disrupted BAS or BIS system (Sheratt & MacLeod, 2013). Therefore, underlying motivation may be more indicative of depression, rather than the orientation of the goal. Moreover, for this study, the low statistical power means that the null results are somewhat inconclusive.

The second hypothesis was supported such that individuals with depression were more pessimistic in their estimations of goal attainment compared to never-depressed individuals. This finding is consistent with theory and empirical evidence, which links depression, low goal expectancies and more generally, the cognitive theory of depression (Beck, 1979; Dickson et al., 2016; Dickson & MacLeod, 2006; Dickson et al., 2011). In individuals with depression, low goal expectancies were also accompanied with lower levels of effort exerted towards personal goals compared to never-depressed individuals, which partially supports the third hypothesis. This reduced effort echoes previous research that found that individuals with depression exhibited less engagement in behaviours perceived to be rewarding such as social, physical and educational behaviours relative to non-depressed individuals (Hopko & Mullane, 2008; Hopko et al., 2003). According to Moss and Cheavens (2019), having low confidence in goal attainment may explain low levels of progress. Similarly, Dickson et al. (2016) argued that low goal expectancies may translate into reduced behavioural effort while concurrently, remaining cognitively engaged (i.e. ruminating) in goals perceived to be unattainable. The current findings related to goal expectancy and behavioural effort further support these

assertions and reinforce the notion of reduced approach motivation in depression.

Unexpectedly, the individuals with depression endorsed similar levels of rumination compared to the never-depressed individuals despite demonstrating lower behavioural effort towards their goals and lower levels of goal expectancies. It is plausible that self-awareness of disrupted progress may interfere with problem-solving abilities with respect to resuming goal progress (Carver & Scheier, 1981). This focus is thought to become maladaptive when an individual cannot achieve or relinquish their goals (Carver & Scheier, 1981), leading to distress and depression (Johnson et al., 2010; Strauman, 2002). Potentially, the measure did not capture less adaptive forms of rumination that are abstract, negative and self-evaluative (Watkins, 2008), which may have differentiated the groups. Additionally, a measure of goal progress was not used so it is difficult to test the view that depressed individuals ruminated more due to low progress (Martin & Tesser, 1996).

Theoretically, depression has also been associated with difficulty disengaging from unattainable goals along with low reengagement in alternative goals (Wrosch et al., 2003). In this study, the fourth hypothesis was partially supported. There results show no support for a significant difference between the groups in terms of goal disengagement for unattainable goals but individuals with depression endorsed a lower propensity to re-engage with alternative goals. The finding related to goal disengagement contrasted with that of Dickson et al. (2016) but replicated their results for goal reengagement. However, this inconsistent finding may be due to the adapted Goal Adjustment Scale in the present study. Perhaps, it is more difficult to envisage disengagement from current goals as opposed to past or more general goals,

rending the group difference null in this study. Interestingly, the findings relating to goal disengagement and behavioural effort also appear contradictory. Depressed individuals reported lower behavioural effort for current goals that were also deemed less likely to be attained in contrast to never-depressed individuals. However, on inspection of descriptive statistics, both groups endorsed similar tendencies towards goal disengagement for unattainable goals. The disengagement strategy, as assessed using the Goal Adjustment Scale (Wrosch et al., 2003), involves reduced commitment and behavioural effort towards unattainable goals. Based on this understanding, the tendency towards disengagement for unattainable goals, in combination with low goal reengagement may represent a problematic pattern of goal adjustment. This particular combination has previously been associated with negative outcomes such as self-harm rehospitalisation amongst older adults and increased suicidal ideation in individuals following hospitalisation for a suicide attempt (O'Connor et al., 2009; O'Connor et al., 2012). In essence, these findings are consistent with the concept of complete disengagement from life, which is characterised by a withdrawal from the pursuit of goals more generally (Carver & Scheier, 1998).

So far the results for depressed persons illustrate patterns that appear to coincide with complete disengagement (Carver & Scheier, 2003) and painful engagement with goals (MacLeod & Conway, 2007). Depressed individuals identify goals that they are currently pursuing but view the attainment of these goals as improbable. Concurrently, they also express lower behavioural effort towards current goals in conjunction with lower reengagement in alternative goals. Based on these observations, the complete disengagement and painful engagement concepts may reflect a dissociation between cognitive and behavioural disengagement in depression. It is possible that this scenario could

increase distress in depression, particularly when considering higher levels of CGS in this group.

Another key finding was that happiness, self-worth and a sense of fulfilment was considered more contingent on goal attainment in depressed individuals (i.e., higher CGS) compared to those who were never-depressed, supporting the fifth hypothesis. This is consistent with past research suggesting a link between CGS and depression, with individuals with depression tending to overvalue goal attainment in relation to its importance for their happiness (e.g., Dickson et al., 2017). It is thought that failing to reach set standards or goals could trigger depression in people with CGS, given its implication for an overall sense of self-worth (Johnson et al., 2010). Arguably, overvaluing goals may further hinder a person's ability to disengage from an unattainable goal and reengage in other goals. Supporting this, for depressed individuals, CGS for avoidance goals was positively associated with rumination for approach goals but, unexpectedly, unrelated to behavioural effort. In the never-depressed group, CGS was positively related to rumination for both goal types. Additionally, CGS was positively related to behavioural effort for avoidance goals. There may be a greater sense of urgency around avoidance goals because of the focus on negative outcomes, meaning the correlation with effort is greater than for approach goals. These latter findings correspond to Martin and Tesser's (1996) understanding of rumination, which states that the process of rumination exists as a means of encouraging engagement of a person's pursuit of an important personal goal, either cognitively or behaviourally. Individuals who view goal attainment of high importance and likelihood may demonstrate greater behavioural effort in the pursuit of a goal.

Future research would benefit from including more behavioural measures of flexible goal adjustment as a way of achieving more objectivity in its measurement, with greater sample sizes. It may also be useful to consider the relationship between flexible goal adjustment and conditional goal setting in predicting depression longitudinally. Previous research has noted that viewing goal attainment as a necessary component for happiness is not the same as it being sufficient for happiness (Danchin et al., 2010). Future research may benefit from incorporating a measure of goal sufficiency, which may suggest that depressed individuals are likely to see goals as necessary for happiness but not sufficient for happiness.

From a clinical perspective, although causality cannot be inferred from these findings, it may prove beneficial for clinicians to assist individuals to reframe their perspective on goals such that they reduce the tendencies to overvalue goals as well as challenge pessimistic views pertaining to goal attainment. Encouraging clients to think about goals more specifically than abstractly may make them more manageable as well as discourage CGS and rumination (Watkins, 2011). In doing so, they may also challenge persistent thoughts of unattainable goals and/or consider the alternative routes to goal attainment for new or existing goals. This could involve the identification of multiple alternate specific goals that might facilitate a specific higher order goal. According to Street (2002), the primary focus should be on the process and enjoyment involved in goal pursuit as opposed to an emphasis being placed on goal attainment itself. This would function to remove the unhelpful dependency attached to the pursuit of goals, which may inhibit goal progress. This could be done by encouraging intrinsic motivation by working on goals closely aligned to values and discouraging mind wandering during goal pursuit. Notably, these

implications appear consistent with a cognitive behavioural approach and third wave approaches that aim to replace unhelpful thoughts and behaviours with more adaptive ones. Of relevance, is the importance of values in approaches like Acceptance and Commitment Therapy, but also mindfulness which promotes a more detached, self-compassionate style of goal engagement (e.g., Crane, Jandric, Barnhofer, & Williams, 2010).

This research has several limitations. First, the small sample size and the broadening of the inclusion criteria for the depression group could mean that individuals are not representative of the target population. Related to this, demographics for the depression group about previous therapy, medication use, and number of depressive episodes were not collected. This limits the ability of the study to generate very targeted clinical implications or to compare the sample to those in other studies. The study is further hampered by the poor response rate despite using a broad recruitment strategy which resulted in low statistical power. Additionally, the goal-specific measures used in this research were self-report, requiring a degree of insight on the part of the participant although consistent with the assumption that goal pursuit is a conscious process. Although face-valid and widely used throughout the goals literature (Emmons, 2003), little is known about whether participant responses on these measures are valid in terms of reflecting actual behaviour, particularly those related to flexible goal adjustment. Additionally, the cross-sectional design of this study affects the ability of the research to infer causal relationships between depression and the goal related constructs.

In conclusion, the findings suggest difficulties in how depressed individuals view and adjust their goals. This includes low goal expectancies, low behavioural effort in conjunction with low reengagement with alternative goals. It

is important to note that there is a degree of uncertainty about whether these findings reflect premature disengagement or not. Individuals with depression were also more likely to view their happiness as contingent on goal attainment, with CGS being positively related to increased rumination. Subsequently, therapeutic approaches that consider alternative routes to goal attainment along with encouraging goal engagement with less emphasis placed on goal attainment may be helpful. This study is conceptually important in highlighting the importance for mental health of understanding motivational incentives in people's lives and how people think and feel about their goals.

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Appendix A

NHS Ethical Approval

North West - Haydock Research Ethics Committee
3rd Floor - Barlow House
4 Minshull Street
Manchester
M1 3DZ

Telephone: 0207 104 8004

Please note: This is an acknowledgement letter from the REC only and does not allow you to start your study at NHS sites in England until you receive HRA Approval

31 July 2018

Miss Eimear Corrigan
Trainee Clinical Psychologist
Taunton and Somerset NHS Foundation Trust
Washington Singer Building, University of Exeter
Perry Road
Exeter
EX4 4QG

Dear Miss Corrigan,

Study title:	**Conditional goal setting and flexible goal adjustment in depression.**
REC reference:	**18/NW/0516**
Protocol number:	**1718/43**
IRAS project ID:	**240282**

Thank you for your letter of 21July 2018. I can confirm the REC has received the documents listed below and that these comply with the approval conditions detailed in our letter dated 13 July 2018

Documents received

The documents received were as follows:

Document	*Version*	*Date*

Copies of advertisement materials for research participants [Recruitment leaflet - NHS setting]	1.1	15 July 2018
Copies of advertisement materials for research participants [Recruitment leaflet - community settings]	1.1	15 July 2018
Copies of advertisement materials for research participants [Recruitment poster - community setting]	1.1	15 July 2018
Copies of advertisement materials for research participants [Recruitment poster - NHS setting]	1.1	15 July 2018
Copies of advertisement materials for research participants [Social media advertisements]	1.1	15 July 2018

Approved documents

The final list of approved documentation for the study is therefore as follows:

Document	*Version*	*Date*
Copies of advertisement materials for research participants [Recruitment leaflet - NHS setting]	1.1	15 July 2018
Copies of advertisement materials for research participants [Recruitment leaflet - community settings]	1.1	15 July 2018
Copies of advertisement materials for research participants [Recruitment poster - community setting]	1.1	15 July 2018
Copies of advertisement materials for research participants [Recruitment poster - NHS setting]	1.1	15 July 2018
Copies of advertisement materials for research participants [Social media advertisements]	1.1	15 July 2018
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Evidence of Insurance Certificate- Public Liability]	1.0	15 June 2018
GP/consultant information sheets or letters [Risk letter to GP]	1.0	20 April 2018
Interview schedules or topic guides for participants [Telephone eligibility assessment - PHQ-9 & screening questions]	1.0	20 April 2018
Interview schedules or topic guides for participants [Telephone eligibility assessment- SCID]	1.0	20 April 2018
IRAS Application Form [IRAS_Form_22062018]		22 June 2018
Letter from sponsor [Letter from sponsor]	1.0	15 June 2018
Non-validated questionnaire [Goal Adjustment Scale]	1.0	20 April 2018
Non-validated questionnaire [Goal Task]	1.0	20 April 2018
Non-validated questionnaire [Goal Task (counterbalanced version)]	1.0	20 April 2018
Non-validated questionnaire [Goal Questionnaire Instruction]	1.0	20 April 2018
Non-validated questionnaire [Demographics questionnaire - About you]	1.0	20 April 2018
Other [MDC Risk Protocol]	1.0	20 April 2018
Other [Evidence of Insurance Certificate - Professional Indemnity]	1.0	15 June 2018
Other [Participant reminder]	1	20 April 2018
Other [Application clarification]		26 June 2018
Other [Reminder notification]	1.0	20 April 2018
Participant consent form [Consent form]	1.0	20 April 2018
Participant information sheet (PIS) [Participant information sheet]	1.0	20 April 2018

Referee's report or other scientific critique report [Scientific Review]	1.0	20 April 2018
Research protocol or project proposal [Research protocol]	1.0	20 April 2018
Summary CV for Chief Investigator (CI) [CV for Chief Investigator]	1.0	20 April 2018
Summary CV for supervisor (student research) [CV for research supervisor 1]	1.0	20 April 2018
Summary CV for supervisor (student research) [CV for research supervisor 2]	1.0	20 April 2018

You should ensure that the sponsor has a copy of the final documentation for the study. It is the sponsor's responsibility to ensure that the documentation is made available to R&D offices at all participating sites.

18/NW/0516 **Please quote this number on all correspondence**

Yours sincerely

[redacted]
REC Assistant

E-mail: nrescommittee.northwest-haydock@nhs.net

Copy to: [redacted]

Appendix B

HRA Approval

Miss Eimear Corrigan
Trainee Clinical Psychologist
Taunton and Somerset NHS Foundation Trust
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EX4 4QG

Email: hra.approval@nhs.net
Research-permissions@wales.nhs.uk

31 July 2018

Dear Miss Corrigan

HRA and Health and Care Research Wales (HCRW) Approval Letter

Study title:	**Conditional goal setting and flexible goal adjustment in depression.**
IRAS project ID:	**240282**
Protocol number:	**1718/43**
REC reference:	**18/NW/0516**
Sponsor	**University of Exeter**

I am pleased to confirm that **HRA and Health and Care Research Wales (HCRW) Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

How should I continue to work with participating NHS organisations in England and Wales?
You should now provide a copy of this letter to all participating NHS organisations in England and Wales, as well as any documentation that has been updated as a result of the assessment.

Following the arranging of capacity and capability, participating NHS organisations should **formally confirm** their capacity and capability to undertake the study. How this will be confirmed is detailed in the "*summary of assessment*" section towards the end of this letter.

You should provide, if you have not already done so, detailed instructions to each organisation as to how you will notify them that research activities may commence at site following their confirmation of capacity and capability (e.g. provision by you of a 'green light' email, formal notification following a site initiation visit, activities may commence immediately following confirmation by participating organisation, etc.).

It is important that you involve both the research management function (e.g. R&D office) supporting each organisation and the local research team (where there is one) in setting up your study. Contact details of the research management function for each organisation can be accessed here.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?
HRA and HCRW Approval does not apply to NHS/HSC organisations within the devolved administrations of Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) has been sent to the coordinating centre of each participating nation. You should work with the relevant national coordinating functions to ensure any nation specific checks are complete, and with each site so that they are able to give management permission for the study to begin.

Please see IRAS Help for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?
HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to obtain local agreement in accordance with their procedures.

What are my notification responsibilities during the study?
The document "*After Ethical Review – guidance for sponsors and investigators*", issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including:

- Registration of research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics, and is updated in the light of changes in reporting expectations or procedures.

I am a participating NHS organisation in England or Wales. What should I do once I receive this letter?
You should work with the applicant and sponsor to complete any outstanding arrangements so you are able to confirm capacity and capability in line with the information provided in this letter.

The sponsor contact for this application is as follows:

Name: [redacted]
Tel: [redacted]
Email: [redacted]

Who should I contact for further information?
Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **240282**. Please quote this on all correspondence.

Yours sincerely

[redacted]
Assessor

Email: hra.approval@nhs.net

Copy to: [redacted], *University of Exeter – Sponsor contact*
[redacted], *Devon Partnership NHS Trust – Lead NHS R&D contact*

Appendix C

Dorset HealthCare University NHS Foundation Trust Approval

PRIVATE & CONFIDENTIAL

Miss Eimear Corrigan
University of Exeter
Washington Singer Building
Parry Road
Exeter
EX4 4QG

Dorset HealthCare University
NHS Foundation Trust

Research & Development
11 Shelley Road
Boscombe
Bournemouth
Dorset
BH1 4JQ

Tel: 01202 443024
Web: www.dorsethealthcare.nhs.uk
Email: dhc.research&development@nhs.net

Friday, 21 September 2018

Dear Eimear

Letter of Access for Research

IRAS: 240282 Conditional Goal Setting and Flexible Goal Adjustment in Depression

This letter should be presented to each participating organisation before you commence your research at that site. The participating organisation is:

Dorset HealthCare University NHS Foundation Trust

In accepting this letter, each participating organisation confirms your right of access to conduct research through their organisation for the purpose and on the terms and conditions set out below. This right of access commences on **21st September, 2018** and ends on **30th September, 2019** unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as outlined in the Statement of Activities as confirmed by Dorset HealthCare University NHS Foundation Trust. Please note that you cannot start the research until the Principal Investigator for the research project has received notification from us giving confirmation from the individual organisation(s) of their agreement to conduct the research.

The information supplied about your role in research at the organisation(s) has been reviewed and you do not require an honorary research contract with the organisation(s). We are satisfied that such pre-engagement checks as we consider necessary have been carried out, however, the final decision rests with your substantive employer. Evidence of checks should be available on request to the organisation(s).

You are considered to be a legal visitor to the organisations premises. You are not entitled to any form of payment or access to other benefits provided by the organisation(s) or this organisation to employees and this letter does not give rise to any other relationship between you and the organisation(s), in particular that of an employee.

While undertaking research through the organisation(s) you will remain accountable to your substantive employer but you are required to follow the reasonable instructions of the organisation(s) or those instructions given on their behalf in relation to the terms of this right of

access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by the organisation(s) in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

You must act in accordance with the organisations policies and procedures, which are available to you upon request and the UK Policy Framework for Health and Social Care Research.

You are required to co-operate with the organisation(s) in discharging its/their duties under the Health and Safety at Work etc. Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on the organisations premises. You must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of any other contract holder and you must act appropriately, responsibly and professionally at all times.

If you have a physical or mental health condition or disability which may affect your research role and which might require special adjustments to your role, if you have not already done so, you must notify your employer and each organisation prior to commencing your research role at that organisation.

You are required to ensure that all information regarding patients or staff remains secure and *strictly confidential* at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice and the Data Protection Act 1998. Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

You should ensure that, where you are issued with an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned upon termination of this arrangement. Please also ensure that while on the organisations premises you wear your ID badge at all times, or are able to prove your identity if challenged. Please note that the organisation(s) do not accept responsibility for damage to or loss of personal property.

This organisation may revoke this letter and any organisation(s) may terminate your right to attend at any time either by giving seven days' written notice to you or immediately without any notice if you are in breach of any of the terms or conditions described in this letter or if you commit any act that we reasonably consider to amount to serious misconduct or to be disruptive and/or prejudicial to the interests and/or business of the organisation(s) or if you are convicted of any criminal offence. You must not undertake regulated activity if you are barred from such work. If you are barred from working with adults or children this letter of access is immediately terminated. Your employer will immediately withdraw you from undertaking this or any other regulated activity and you MUST stop undertaking any regulated activity immediately.

Your substantive employer is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

No organisation will indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the Data Protection Act 1998. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

If your current role or involvement in research changes, or any of the information provided in your Research Passport changes, you must inform your employer through their normal procedures. You must also inform your nominated manager in each participating organisation and the R&D office in this organisation.

Yours sincerely

[redacted]

Dorset HealthCare University NHS Foundation Trust

cc: [redacted] HR Advisor, Taunton and Somerset NHS Foundation Trust

Appendix D

Devon Partnership NHS Trust Approval

Devon Partnership NHS
NHS Trust

Research and Development Directorate
Wonford House
Dryden Road
EXETER EX2 5AF

Tel: 01392 208765
Fax: 01392 403445

Email: [redacted]

Miss Eimear Corrigan
Trainee Clinical Psychologist
Taunton and Somerset NHS Foundation Trust
Washington Singer Building, University of Exeter
Perry Road
Exeter
EX4 4QG

28 August 2018

Dear Eimear

Letter of access

IRAS Project ID : 240282
DPT Project Reference : DPT 0412

Study Title : Conditional goal setting and flexible goal adjustment in depression.

This letter of access enables you to work on the above mentioned project to conduct research through Devon Partnership NHS Trust on the terms and conditions as set out below. This right of access commences on **28 August 2018** and ends with the conclusion of this project. You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation and defined in your Research Passport application.

You are considered to be a legal visitor to Devon Partnership NHS Trust premises. You are not entitled to any form of payment or access to other benefits provided by this NHS organisation to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While undertaking research through Devon Partnership NHS Trust you will remain accountable to your employer, but you are required to follow the reasonable instructions of the Research & Development Director in this NHS organisation or those given on his behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

You must act in accordance with Devon Partnership NHS Trust policies and procedures, which are available to you upon request, and the Research Governance Framework.

You are required to co-operate with Devon Partnership NHS Trust in discharging its duties under the Health and Safety at Work etc Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on Devon

Partnership NHS Trust premises. You must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of any other contract holder and you must act appropriately, responsibly and professionally at all time.

You are required to ensure that all information regarding patients or staff remains secure and *strictly confidential* at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice (http://www.dh.gov/assetRoot/04/06/92/54/04069254.pdf) and the Data Protection Act 1998. Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

You should ensure that, where you are issued with an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned upon termination of this arrangement. Please also ensure that while on the premises you wear your ID badge at all times, or are able to prove your identity if challenged. Please note that this NHS organisation accepts no responsibility for damage to or loss of personal property.

We may terminate your right to attend at any time either by giving seven days' written notice to you or immediately without any notice if you are in breach of any of the terms or conditions described in this letter or if you commit any act that we reasonably consider to amount to serious misconduct or to be disruptive and/or prejudicial to the interests and/or business of this NHS organisation or if you are convicted during this research project and may in the circumstances described above instigate disciplinary action against you.

Devon Partnership NHS Trust will not indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the Data Protection Act 1998. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

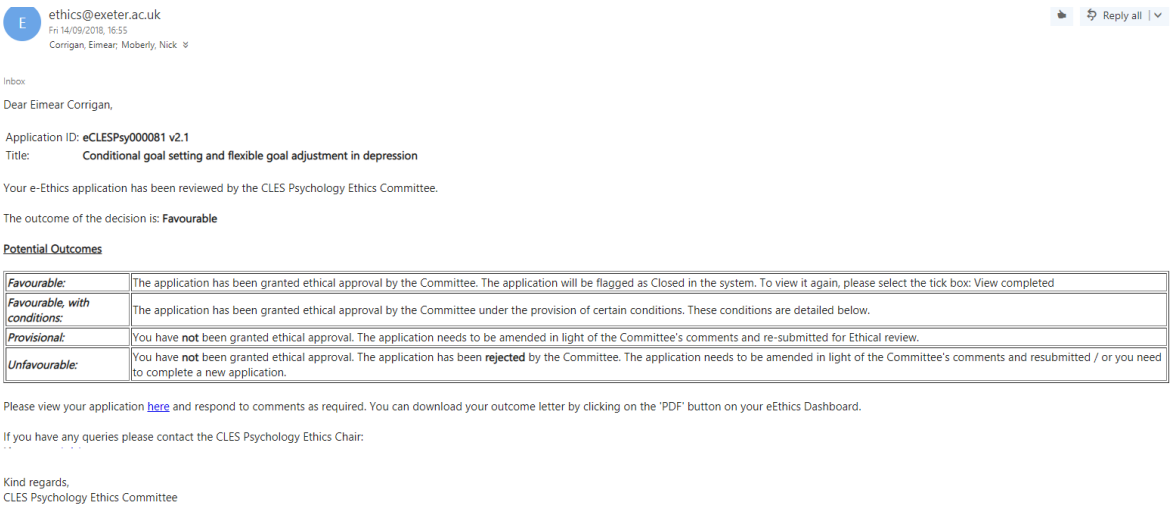
If your current role or involvement in research changes, or any of the information provided in your Research Passport changes, you must inform your employer through their normal procedures. You must also inform your nominated manager in this NHS organisation.

Yours sincerely

[redacted]
Managing Partner, Research & Innovation
Honorary University Fellow, University of Exeter Medical School
Devon Partnership NHS Trust, Wonford House, Exeter, EX2 5AF

Appendix E

University Ethical Approval



ethics@exeter.ac.uk
Fri 14/09/2018, 16:55
Corrigan, Eimear; Moberly, Nick

Reply all

Inbox

Dear Eimear Corrigan,

Application ID: **eCLESPsy000081 v2.1**
Title: **Conditional goal setting and flexible goal adjustment in depression**

Your e-Ethics application has been reviewed by the CLES Psychology Ethics Committee.

The outcome of the decision is: **Favourable**

Potential Outcomes

Favourable:	The application has been granted ethical approval by the Committee. The application will be flagged as Closed in the system. To view it again, please select the tick box: View completed
Favourable, with conditions:	The application has been granted ethical approval by the Committee under the provision of certain conditions. These conditions are detailed below.
Provisional:	You have **not** been granted ethical approval. The application needs to be amended in light of the Committee's comments and re-submitted for Ethical review.
Unfavourable:	You have **not** been granted ethical approval. The application has been **rejected** by the Committee. The application needs to be amended in light of the Committee's comments and resubmitted / or you need to complete a new application.

Please view your application here and respond to comments as required. You can download your outcome letter by clicking on the 'PDF' button on your eEthics Dashboard.

If you have any queries please contact the CLES Psychology Ethics Chair:

Kind regards,
CLES Psychology Ethics Committee

Appendix F

Recruitment Poster

WE NEED YOU!

UNIVERSITY OF EXETER

Can you help us understand depression better?

This research...

This research aims to better understand how people think about and change their personal goals, especially when faced with obstacles. A personal goal is something you would like to achieve in life.

I am looking for people with AND without depression to take part in this research.

What is involved?

- A telephone interview to assess eligibility to take part in the research

AND

- Completion of postal questionnaires about your personal goals

Individuals who may be eligible to take part will be...

- Aged 18 or over **AND** who are currently depressed

OR

- Aged 18 or over **AND** who have never been depressed **AND** have not sought help for other mental health difficulties

For more information, please contact me using the details listed below...

IRAS no: 240282,v1.1, 15th July 2018

GOALS RESEARCH
Researcher: Eimear Corrigan
Email: ec507@exeter.ac.uk
Phone: 07517123172

GOALS RESEARCH
Researcher: Eimear Corrigan
Email: ec507@exeter.ac.uk
Phone: 07517123172
GOALS RESEARCH
Researcher: Eimear Corrigan
Email: ec507@exeter.ac.uk
Phone: 07517123172
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Email: ec507@exeter.ac.uk
Phone: 07517123172
GOALS RESEARCH
Researcher: Eimear Corrigan
Email: ec507@exeter.ac.uk
Phone: 07517123172

Appendix G

Recruitment Leaflet

WE NEED YOU!

Can you help us understand depression better?

This research...

This research aims to better understand how people think about and change their personal goals, especially when faced with obstacles. A personal goal is something you would like to achieve in life.

I am looking for people with AND without depression to take part in this research.

What is involved?

- A telephone interview to assess eligibility to take part in the research

  AND

- Completion of postal questionnaires about your personal goals

Individuals who may be eligible to take part will be...

- Aged 18 or over **AND** who are currently depressed

  OR

- Aged 18 or over **AND** who have never been depressed
  AND have not sought help for other mental health difficulties

FOR MORE INFORMATION:
Please contact me using the details listed below...

Eimear Corrigan, Trainee Clinical Psychologist
Email: **ec507@exeter.ac.uk** | Phone: 07517123172

UNIVERSITY OF EXETER

IRAS no: 240282,v1.1, 15th July 2018

Appendix H

Social Media Advertisements

Advertisement for individuals with depression:

Do you experience depression?

Are you interested in taking part in a research study that aims to better understand how people think about their personal goals, especially when faced with obstacles?

I am recruiting people both with AND without depression to take part in this research.

Individuals who may be eligible to take part will be: Aged 18 years or over and be currently experiencing depression **OR** those who are 18 years or over, have never been depressed and have not sought help for other mental health difficulties.

If you choose to take part, you will complete a telephone interview lasting up to one hour to assess your eligibility. If you are eligible for this study, you will then be asked to complete a postal questionnaire about your personal goals which should take no longer than 40 minutes to complete.

Eligible individuals who return their completed questionnaires will receive a £5 voucher as a token of our appreciation for your time.

For more information, please contact me using the details listed below: Eimear Corrigan. Email: ec507@exeter.ac.uk. Tel: Number to be generated for study.

Appendix I

Participant Information Sheet

Clinical Psychology Department
Washington Singer Building
University of Exeter
Perry Road
Exeter EX4 4QG
Email: ec507@exeter.ac.uk
Telephone: 07517 123172

Participant Information Sheet

Title of Research: Conditional goal setting and flexible goal adjustment in depression

My name is Eimear Corrigan and I'm a Trainee Clinical Psychologist at the University of Exeter. I am carrying out research to better understand how people view and change their personal goals, particularly when these goals become unobtainable. I am looking to recruit people with and without a diagnosis of depression. You do not need a diagnosis of depression to participate in this study. Before you decide to participate, please take time to consider the following information, which will explain why the research is being done and what it would involve for you.

What is the purpose of this research?
The movement toward personal goals along with their achievement have long been linked to improved health and well-being. However, it is not always possible to achieve goals for various reasons. For example, personal resources (e.g., lack of time or effort) and/or a life event (e.g., injury) may limit opportunities to pursue a goal (e.g., running a marathon). In this study, I am interested in understanding how people with depression view and change their goals compared to people who have never been depressed. I hope that by contributing to current research, this knowledge can help us to better understand depression.

What is involved?
To be eligible for participation, certain symptoms must be present or absent for individuals with and without a history of depression. If you decide to participate, I will ask you to complete an interview over the telephone at a time that is convenient for you. This telephone interview will include questions about current and previous symptoms of low mood along with other difficulties that you may have experienced. This interview should take no longer than one hour. It will be audio-recorded with your agreement to ensure that my approach is consistent and reliable across this research.

If you are eligible to participate, I will ask you to complete a questionnaire about your goals along with some background questions about you. The questionnaires will be sent to you by post accompanied with a pre-paid envelope for return postage. Completion of the questionnaires should take you approximately 30-40 minutes. Participants who complete and return their goal questionnaires will receive a £5 gift voucher for their time in completing

these. Unfortunately, due to limited resources, it is not possible to provide a voucher to individuals who are not eligible or those who do not return their goal questionnaires.

Will my participation be kept confidential?
Due to recent regulatory changes in the way that data is processed (General Data Protection Regulations 2018 and the Data Protection Act 2018) the University of Exeter processes personal data for the purposes of carrying out research as what is termed a 'task in the public interest'. The University will endeavour to be transparent about its processing of your personal data and this information sheet should provide a clear explanation of this. If you do have any queries about the University's processing of your personal data that cannot be resolved by the research team, further information may be obtained from the University's Data Protection Officer by emailing dataprotection@exeter.ac.uk or at www.exeter.ac.uk/dataprotection. If you have any concerns about how the data is controlled and managed for this study then you can also contact the Sponsor Representative, Pam Baxter whose details are at the end of the information sheet.

For the purposes of this study we will also use consent as the lawful basis to protect your confidentiality. All information collected in this study will be kept strictly confidential and stored either on an encrypted password protected computer or in a locked cabinet at the University, which can only be accessed by the researcher and my research supervisors. You will be allocated a unique participant number, which will ensure the information from your questionnaires and interview cannot be identified by anyone else. Any personally identifiable information will be stored separately from information obtained from the questionnaires and interview.

There is one important exception when confidentiality may need to be broken. This occurs if you disclose risk to yourself or someone else. In such circumstances, I may need to speak with your GP although this will be done following a conversation with you first and with your permission. For this reason, we ask all participants to provide details of their current location and GP details for the telephone interview.

All personal information gathered for this research will be securely destroyed within 6 months of the end of the study. The anonymised information obtained from questionnaires will be kept for a period of no more than four years to allow the research to be published. Until then, the information will be stored securely on password protected encrypted computer through the University of Exeter's institutional repository Open Research Exeter:
http://www.exeter.ac.uk/research/openresearch/opendata/

Who can take part?
We are looking for people who are:

- ✓ Aged 18 or over AND
- ✓ Are currently depressed

OR

- ✓ Aged 18 or over AND

- ✓ Have never been depressed AND
- ✓ Have not sought help for other mental health difficulties

However, this study may not be suitable for some people due to our selection criteria which will be discussed with individuals at the telephone interview.

Do I have to take part?
You do not have to take part in this research. Participation is voluntary and declining will not disadvantage you or your care in any way. If you decide to participate, you will find a consent form and pre-paid envelope with this participant information sheet. The consent form must be returned before the research can commence. Once your written consent is received, a suitable time for the telephone eligibility interview will be arranged with you. Please remember that you can decline participation and withdraw your consent at any time.

What if I become upset during the research?
I will do my best to minimise any upset during the telephone interview and will be sensitive to your feelings and concerns. However, should you require further support, then I may encourage you to contact your GP or healthcare professional. You can also contact one of the helpline numbers below:

Samaritans (24 hour helpline)
Telephone: 116 123
www.samaritans.org

SANE (4.30-10.30pm daily)
Telephone: 0300 304 7000
www.sane.org.uk

Are there any risks?
Taking part in this research involves a telephone interview which asks some personal questions about your mood that you may find difficult or upsetting. Your well-being is important and I will do my best to minimise any upset caused. You do not have to answer any questions you do not want to and should you become upset, I may encourage you to contact your GP or care coordinator. If I feel you require further support, I may contact your GP following discussion with you first. If you have any concerns about this, you can contact me on the details below.

Are there any benefits?
There are no direct benefits. However, I hope that you will find participation in this research interesting. This research will aim to improve our knowledge about the link between personal goals and depression.

What if there is a problem?
If you are concerned about any aspect of this research or the way you were treated, you can contact Dr. Nick Moberly, School of Psychology, Washington Singer Laboratories, University of Exeter, Perry Road, Exeter EX4 4QG (01392 724656). Alternatively, if you wish to make a complaint, the National Health Service complaints service is available through the Patient Advice and Liaison Service and can be contacted on

Freephone 0800 587 4997 (for Dorset participants) or 01392 40 2093 (for Devon participants).

What will happen to the results of this research?
All information will be combined with the results of other participants and your information will not be identifiable. The results of this research will be collated, with the aim of submitting it for publication to an academic journal.

Ethical approval:
This research has been reviewed by North West - Haydock Research Ethics Committee and approved for the NHS by the Health Research Authority. The sponsor is the University of Exeter.

Researchers contact details:
If you would like further information about this research or would like to participate, please contact me using the details below:

Eimear Corrigan
Clinical Psychology Department
Washington Singer Building
University of Exeter
Perry Road
Exeter EX4 4QG

Email: ec507@exeter.ac.uk
Telephone: 07517 123172

Sponsor Representative contact details:
Ms Pam Baxter
Senior Research Governance Officer
University of Exeter
Lafrowda House
St Germans Road
Exeter
EX4 6TL
Tel: 01392 723588
Email: P.R.Baxter2@exeter.ac.uk

Appendix J

Consent Form

Participant Consent Form

Title of project: Conditional goal setting and flexible goal adjustment in depression

Name of researcher: Eimear Corrigan

Clinical Psychology Department
Washington Singer Building
University of Exeter
Perry Road
Exeter EX4 4QG

Telephone: 07517 123172
Email: ec507@exeter.ac.uk

Please read and complete this form carefully. If you are willing to participate in this research, please read the following statements and initial your agreement in the boxes provided. Then sign and date the form on the next page.

For office use only Participant ID number_____

	Please initial each box
1. I have read the information sheet dated 27th July 2018 (version 1.1) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without my medical care or legal rights being affected.	☐
3. I understand that sections of the data collected during the study may be looked at by relevant individuals of the University of Exeter and from regulatory authorities, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my data.	☐
4. I understand that my data will be confidential unless it indicates a risk of harm to myself or others in which case information will be shared with my GP.	☐
5. I understand that my data will be kept anonymously and identifying information stored securely and separately in a locked cabinet or on a password protected computer. Identifying information will be destroyed within 6 months of the end of the study while the anonymous research information stored through the University of Exeter's institutional repository Open Research Exeter for 3 years.	☐
6. I agree to my interview being audio-recorded and I understand that the recording will be destroyed after 3 years.	

7. I understand that following the telephone interview I may not be eligible to participate in this study ☐

8. I agree to participate in this study ☐

Name of participant (print)	Date	Signature
Name of researcher (print)	Date	Signature

One copy for participant, one copy for researcher

Appendix K

Telephone Screen

Conditional goal setting and flexible goal adjustment in depression

SCRIPT FOR TELEPHONE ELIGIBILTY ASSESSMENT

Hello, my name is Eimear and I am calling with regards to the research you expressed interest in. We have received your consent form, thank you. Would it be ok for me to ask you some questions to make sure that you are eligible for this study? You do not have to answer any question that you do not wish to but we do need certain information to check eligibility. This should take approximately one hour. I would also like to audio-record the conversation so that my scoring of the questions can be assessed for accuracy and consistency across the research. Is this ok with you?

All information gathered will be kept strictly confidential and only accessed by myself or my supervisors, Dr. Nick Moberly or Dr. Jenny Limond. We keep all personally identifiable information separate from questionnaire information and on a password protected computer or locked in a cabinet. There may be times that we need to break confidentiality. This would occur if you mention something that raises concern about your safety or the safety of someone else. In this instance, we may need to contact your GP but do this after discussion with yourself. Do you have any questions or concerns? Are you happy to continue?

PARTICIPANT NO: _____

Before we begin, we ask every person their current location and GP details. As mentioned, we do this should you mention something that raise concern about your safety.

1. Where are you currently? Add details to electronic database
2. What are your GP details? - GP, surgery name and address Add details to electronic database
3. Are you happy for me to start the audio-recording?

DEPRESSION SCREENING QUESTIONS - PHQ-9

For the next couple of questions, I will ask you how often during the past <u>two weeks</u> you have been experiencing a certain problem. You can answer by saying ‘Not at all’, ’Several days’, ‘More than half the days’, or ‘Nearly every day'.

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3

3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself in some way?	0	1	2	3

TOTAL SCORE: ☐

[NOTE FOR RESEARCHER: PHQ scores - ≥ 10 requirement for depressed sample and ‹10 for control sample, if not met then exclude]

ADDITIONAL SCREENING QUESTIONS - PSYCHOSIS, BI-POLAR SUBSTANCE MISUSE, BRAIN INJURY

Now I want to ask you some more questions about problems you may or may not have had. Firstly, I am going to ask you about unusual experiences that people sometimes have. You can simply respond yes or no.

	Yes/No	
1. Has it ever seemed like people were talking about you or taking special notice of you?		
2. Have you heard things that other people didn't hear?		
3. Have you seen things that people couldn't see?		
4. Have you ever received a diagnosis of bi-polar disorder?		
5. Have you ever sought help for a drink problem?		
6. Have you ever used street drugs?		
7. Have you ever gotten addicted to a prescribed medicine or taken a lot more of it than you were supposed to?		

8. Have you ever been diagnosed with a brain injury?

[NOTE FOR RESEARCHER: A yes response to the above questions is part of the exclusion criteria. However, please note a yes response may be common for questions 1-3 and be reflective of social anxiety/paranoia rather than psychosis. With this in mind, please enquire what they were thinking when they say yes and/or were they convinced by this]

FOR COMMUNITY COMPARISON GROUP:

	Yes/No	
1. Have you experienced another mental health difficulty in the past?		
2. Are you seeking help or have sought help for a mental health difficulty?		

ASSESSMENT OF PRESENCE OR ABSENCE OF MAJOR DEPRESSIVE DISORDER

Now complete the section of the Structured Clinical Interview for DSM-IV-TR - Research Edition, assessing major depressive disorder.

EXPLANATIONS OF THE OUTCOME FOR THE TELEPHONE INTERVIEW

FOR NON-ELIGIBLE PEOPLE: Thank you for taking the time to answer my questions today. I'm sorry but based on your responses, you would not be eligible to participate in this study. This is because we are recruiting individuals with a selective criteria.

ELIGIBLE PEOPLE: Thank you for taking the time to answer my questions today. If you are still happy to continue with the research, I can send out a questionnaire booklet which looks at your goals. Is this OK? What address would you like me to send it to?

Appendix L

Questionnaire Pack

Clinical Psychology Department
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Goal Task Instruction

Dear Participant,

Thank you for agreeing to take part in this research. Please find enclosed three questionnaires, which should take approximately 30-40minutes for you to complete and are labelled as follows:

1. Goal Task Questionnaire
2. Goal Adjustment Scale
3. About you

Please complete these questionnaires in the order shown in the list above. Also included is a stamped addressed envelope so you can return the questionnaires. Each questionnaire includes instructions that explains how they should be completed. Please answer as honestly as possible.

Should you have any questions, please do not hesitate to contact me on the contact details listed above.

Thank you for your time and effort participating in this research.

Yours Sincerely,

Eimear Corrigan

Trainee Clinical Psychologist

Goal Task

This study is interested in the goals people generate for themselves and how they view them. Goals are things that you would like to attain in the future.

Firstly, I would like you to think about your current goals. This can be difficult but please remember you do not have to fill in all the lines below if not applicable. Please complete the following sentence with as many goals as you can think of:

It is important for me to.....

Examples: drink 8 glasses of water a day, go to the gym 3 times a week

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Now, I would like you to think of another type of goal. This time I would like you to think of current goals that involve avoiding particular situations or preventing certain circumstances.

Again, please think of your current goals. Don't worry if you do not fill in all the lines. Please complete the following sentence with as many goals as you can think of:

It is important for me <u>to avoid</u>.....

Examples: avoid eating high fat foods, avoid drinking alcohol during the week

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Now, we would like you to choose your three most important goals from page 1

My three most important goals from "*it is important for me to*" are:

Example: "*It is important to me to drink 8 glasses of water a day*"

A.

B.

C.

We would like to find out more about each goal listed above.

Fill in goals A, B and C in the table below and follow the example provided. Please indicate your level of agreement with the statements in the left column for each goal using the scale provided. Start with goal A and work down the page making ratings, turning over the page and continuing the ratings before returning to goal B. Please choose the response that best fits with your current experience.

	Example: *Drink 8 glasses of water*	**Goal A:**.....	**Goal B:**.....	**Goal C:**..... .....
How likely is it that you will achieve this goal? *Not likely* 1 2 3 4 5 6 7 *Extremely likely*	*5*			
How much action (i.e., specific behaviours) have you taken to advance this goal over the last week *None at all* 1 2 3 4 5 6 7 *Extremely high level of action*	*3*			
I find myself thinking about this goal even if I don't want to *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*1*			
This goal goes round and round in my mind *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*1*			
I obsess about this goal *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*1*			

	Example: *Drink 8 glasses of water*	**Goal A:**.....	**Goal B:**.....	**Goal C:**..... .....
I find it hard to stop thoughts about this goal *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*1*			
I don't ruminate or dwell on this goal for very long *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*7*			
I can easily put this goal out of my mind *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*6*			
I rarely think about this goal *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*5*			
To what extent can you still be happy if you <u>do not achieve</u> your goal? *Not at all* 1 2 3 4 5 6 7 *Extremely*	*2*			
To what extent can you still feel fulfilled if you <u>do not achieve</u> your goal? *Not at all* 1 2 3 4 5 6 7 *Extremely*	*2*			
To what extent can you still have a high sense of self-worth if <u>you do not achieve</u> your goal? *Not at all* 1 2 3 4 5 6 7 *Extremely*	*1*			

Now, we would like you to choose your three most important goals **from page 2**

My three most important goals from "*it is important for me to avoid*" are:

Example: "*It is important to me to avoid eating high fat food*"

D.

E.

F.

We would like to find out more about each goal listed above.

Fill in goals D, E, F in the table below and follow the example provided. Please indicate your level of agreement with the statements in the top row for each goal using the scale provided. Start with goal D and work down the page making ratings, turning over the page and continuing the ratings before returning to goal E. Please choose the response that best fits with your current experience.

	Example: *Avoid eating high fat food*	**Goal D:**.....	**Goal E:**.....	**Goal F:**..... .....
How likely is it that you will achieve this goal? *Not likely* 1 2 3 4 5 6 7 *Extremely likely*	*2*			
How much action (i.e., specific behaviours) have you taken to advance this goal over the last week *None at all* 1 2 3 4 5 6 7 *Extremely high level of action*	*2*			
I find myself thinking about this goal even if I don't want to *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*5*			
This goal goes round and round in my mind *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*5*			

	Example: *Avoid eating high fat food*	**Goal D:**.....	**Goal E:**.....	**Goal F:**..... .....
I obsess about this goal *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*6*			
I find it hard to stop thoughts about this goal *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*5*			
I don't ruminate or dwell on this goal for very long *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*2*			
I can easily put this goal out of my mind *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*2*			
I rarely think about this goal *Strongly disagree* 1 2 3 4 5 6 7 *Strongly agree*	*2*			
To what extent can you still be happy if you <u>do not achieve</u> your goal? *Not at all* 1 2 3 4 5 6 7 *Extremely*	*6*			
To what extent can you still feel fulfilled if you <u>do not achieve</u> your goal? *Not at all* 1 2 3 4 5 6 7 *Extremely*	*6*			
To what extent can you still have a high sense of self-worth if <u>you do not achieve</u> your goal? *Not at all* 1 2 3 4 5 6 7 *Extremely*	*6*			

Goal Adjustment Scale

During our lives we cannot always attain what we want and sometimes are forced to stop pursuing the goals we have set. We are interested in understanding how you usually react when this happens to you. Please indicate the extent to which you agree or disagree with each of the following statements, thinking about the personal goals you listed in the previous section.

If I have to stop pursuing an important goal in my life....	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. It's easy for me to reduce my effort towards the goal					
2. I convince myself that I have other meaningful goals to pursue					
3. I stay committed to the goal for a long time; I can't let go					
4. I start working on other new goals					
5. I think about other new goals to pursue					
6. I find it difficult to stop trying to achieve the goal					
7. I seek other meaningful goals					
8. It's easy for me to stop thinking about the goal and let it go					
9. I can tell myself that I have a number of other new goals that I can draw upon					
10. I put effort toward other meaningful goal					

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About You

For office use only PARTICIPANT NO:

Please could you fill in this sheet to provide us with some background information about yourself:

1. What is your age?

2. What is your gender? Please tick the appropriate box:

   a. Male ☐
   b. Female ☐
   c. Other ☐

3. What is the highest level of education you obtained? Please tick the appropriate box:

   a. GCSE ☐
   b. A levels ☐
   c. Certificate ☐
   d. Diploma ☐
   e. Bachelor's degree ☐
   f. Master's degree ☐
   g. Doctoral degree ☐
   h. Other ☐ If other, please specify:

4. What is your employment status? Please tick the appropriate box:

   a. Employed full time ☐
   b. Employed part-time ☐
   c. Not employed ☐
   d. Student ☐
   e. Other ☐ If other, please specify:

5. What is your ethnicity? Please tick the appropriate box:

   a. White ☐
   b. Black ☐
   c. Asian ☐
   d. Mixed ☐
   e. Traveller ☐
   f. Other ☐ If other, please specify:

Thank you – please return this with your completed questionnaire pack in the envelope provided.

Appendix M

Manuscript Submission Requirements for Motivation and Emotion

Scope

Motivation and Emotion publishes articles that focus on motivational and emotional phenomenon. The journal seeks to publish articles that make a theoretical advance by linking empirical findings to underlying processes. Submissions to the journal should speak to an important problem in motivation and emotion study, and they should offer theory-based directional hypotheses.

Manuscript Style

Submissions are to be formatted according to APA style, as detailed in:

APA (2010). Publication manual of the American Psychological Association, 6th edition. American Psychological Association: Washington, DC.

Submissions should be structured as follows:

A Title Page lists the title of the manuscript but omits the authors' names, affiliations, and author notes.

An Abstract of 120 to 160 words offers information about the purpose of the paper, the sample and procedures, key results, and a clear statement of the implications of the findings. Below the Abstract, supply 4 or 5 keywords or brief phrases.

An Introduction introduces the research problem and explains why it is important. It describes relevant theory and past research, and provides testable, directional hypotheses.

A Method appears in subsections. A Participants section identifies the research participants and their demographic characteristics. A Procedures or Research Design section provides the timeline of events within the conduct of the study and states the experimental conditions or data analysis plan. A Measures section provides the measures used in the collection of the data and offers evidence of the psychometric properties of those measures.

The Results reports the analyses performed and the result of the statistic tests, especially those related to the hypotheses. Generally speaking, descriptive statistics are provided in tables or figures whereas the report of the statistical tests appears in the text.

The Discussion evaluates and interprets the findings and states their implications. The section should not simply reiterate the findings. Instead, it interprets the findings, integrates them into both theory and the existing empirical literature, offers suggestions for future research, acknowledges the limitations of the research, and addresses alternative interpretations.

A Conclusion section is optional. If provided, it should be a brief (usually a single paragraph) section that explicitly states the contribution of the study and it move the research literature significantly forward.

Many papers will feature multiple experiments. For these submissions, the arrangement of sections reflects the above structure but includes additional headings such as “Study 1”, “Study 2”, and “Study 3”. Each study is to include its own Introduction, Method, Results, and Discussion sections.

For References, Footnotes, Tables, and Figures, follow the guidelines of the APA Publication manual. An Appendix may be an appropriate final section to provide stimulus materials or the items within a newly-developed questionnaire.